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ABSTRACT

Dissertations were selected for inclusion in this annotated bibliography if they used some form of educational media as the subject or as the methodology of their research. Selections were made from "American Doctoral Dissertations" and from "Dissertation Abstracts." For those selected from the latter, volume and page citations to "Dissertations Abstracts" are included to aid in locating the full abstract. This bibliography is divided into eight sections entitled: audio, audiovisual, computers in instruction, library, programed instruction, projected materials: motion, projected materials: stills, and television. For those dissertations which fall in more than one category, cross-references are supplied. Within each of the eight chapters, citations are arranged alphabetically by author. (Author/SL)

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DOCTORAL RESEARCH IN EDUCATIONAL MEDIA 1969-1972

1975

Charlene D. Kirschner
Cataloger/Reference Librarian

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Education Librarian

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University of Colorado at Boulder

A paper of the ERIC Clearinghouse on Information Resources, Stanford Center for Research and Development in Teaching, School of Education, Stanford University, Stanford, California 94305.

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PREFACE

This publication was produced to assist those people who are engaged in educational media research, and those who need to know the results of this doctoral research. In the majority of citations, the source for titles is *Dissertation Abstracts* (University Microfilms, Ann Arbor, Michigan). Entries with the notation "No abstract available" were found in the index *American Doctoral Dissertations,* published by University Microfilms for the Association of Research Libraries.

Dissertations were selected from these two sources if they used some form of educational media as the subject of their research or as the methodology of their research. Volume and page citations to *Dissertation Abstracts* are included in order to aid the reader in locating the full abstract.

Doctoral dissertations completed during the years 1969-1972 are included, with the exception of some 1969 dissertations that were listed in the "Dissertation Completed" section of the first edition of this publication.* This second edition differs from the first in two major ways: The title has been changed from "Library Media" to "Educational Media" to more accurately reflect the contents, and annotations have been included in the second edition, at the suggestion of users of the first edition.

Doctoral Research in Educational Media is divided into eight sections encompassing the broad field of educational media. These sections differ from those in the previous edition in that some have been combined or excluded. For those dissertations which fall in more than one category, cross-references have been supplied. The scope of each category is as follows:

1. AUDIO includes dissertations using compressed speech, expanded speech, audio-tutorial instruction (AT), radio, and telelecture.

2. AUDIOVISUAL includes dissertations on instructional materials centers and media personnel, and dissertations testing the effects of multi-media or using multi-media for presentation.

3. COMPUTERS IN INSTRUCTION includes dissertations dealing with instructional uses of the computer. Most entries deal with computer-assisted instruction (CAI) or computer-managed instruction (CMI).

4. LIBRARY includes studies of librarians, libraries, and library use which seem to have relevance to the educational media concept. Most of them deal with the elementary or secondary educational levels. A more complete listing of library science doctoral dissertations can be found in Schlachter and Thomison's *Library Science Dissertations, 1925-1972: an Annotated Bibliography.* Many of the dissertations in our LIBRARY section are not included in Schlachter and Thomison's work, for they were done outside of doctoral library science programs. See also the AUDIOVISUAL section for related dissertations on instructional media centers.

5. PROGRAMMED INSTRUCTION includes studies concerned with the effectiveness of programmed instruction presentations compared with other types of teaching, and research into different presentation formats, such as book form, audio, or tape-slide.

6. PROJECTED MATERIALS: MOTION includes dissertations studying or utilizing 8mm (super or regular), 16mm, cartridge or reel-to-reel motion film.

7. PROJECTED MATERIALS: STILLS includes dissertations studying or utilizing overhead projection, filmstrip projection, slides or pictures.

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* The first edition of *Doctoral Research in Library Media, 1970,* is out of print. However, it is available in ERIC as ED 047 495. Microfiche 76 cents, hardcopy $4.43, plus 18 cents postage, from EDRS, P.O. Box 190, Arlington, Virginia 22210.

8. TELEVISION includes dissertations studying or utilizing all formats of television, including videotape.

Many trends were observed during the course of preparing this second edition. An increasing attempt to measure affect using the various media was seen. There seems to be a trend towards using multi-media in counseling and guidance research. Librarians, IMC specialists, and audio-visual specialists are playing a larger role in curriculum development; their materials centers are being regarded as more central to the schools' educational goals. There is greater use of television and videotape and modeling techniques in inservice and preservice teacher training. There appears to be a trend away from the use of slides and overheads in recent research. Studies seem to be dealing with isolated topics which are examined in depth, instead of evaluative studies which view the larger picture. Very little formative and summative evaluation studies are being done during this period. The use of audio-tutorial instruction seems to be increasing.

It is expected that supplements to *Doctoral Research in Educational Media* will be issued regularly to update the material, if there is sufficient interest in such a service.

DISCLAIMER NOTICE

The material in this publication was prepared pursuant to a contract with the National Institute of Education, United States Department of Health, Education, and Welfare. Contractors undertaking such projects under government sponsorship are encouraged to express freely their judgment in professional and technical matters. Prior to publication, this manuscript was submitted to the American Library Association for critical review and determination of professional competence. This publication has met such standards. Points of view or opinions, however, do not necessarily represent the official view or opinions of either the American Library Association or the National Institute of Education.

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AUDIO

Alexander, Larry Jack, *Listening Time as it Relates to Learning Information Presented by Audio Tape on a Dial Access System.* Oklahoma State University. 1970. 31/5921. *

The purpose was to determine if there is a better time arrangement for listening to audio-tapes than all at one sitting. The data seemed to indicate an argument for the use of shorter listening lessons.

Anderson, Carol Joy, *The Development and Evaluation of Programmed Learning for High School Chemistry.* Arizona State University. 1971. 32/1935.

The subjects received cassette tape programmed materials. CHEM study materials were taught. There was no significant difference in achievement or retention. There was no interaction by type of student.

Anderton, Ray Lawrence, *A Study of the Effect of a Time-Compressed Tape-Slide Instructional Program Upon the Learner.* University of Colorado. 1969. 31/1064.

This thesis was conducted with University of Colorado education students. Its purpose was to determine if students could learn information via a tape-slide presentation as well using speeds faster than normal. The normal speed was identified at 150 wpm and subjects were presented tape-slide information at 150, 200, 250 and 300 wpm. It was found that students can learn at higher speeds as well as at the normal speed, but comprehension does drop off at 300 wpm.

Arendsen, Carl Gene, *A Use of Audio-Tutorial Techniques in Arithmetic for a Remedial College Algebra Class.* Michigan State University. 1971. 32/4915.

Audio-tutorial techniques were investigated with remedial college algebra students, with the effect of volunteers, with achievement and with retention. Students in the experimental groups scored higher. Volunteer and control groups were not significantly different; the experimental group seemed to retain information at a higher level.

Armstrong, John Hallsten, *An Exploratory Study of the Effectiveness of an Audio-Tutorial System as an Instrument of Instruction in an Introductory Botany Course at Oklahoma State University.* Oklahoma State University. 1970. 31/5785.

This study showed a significant gain in achievement for students taught by AT methods. Females showed greater inprovement than males. The amount of time spent in the learning center showed a strong correlation (0.65) with the final semester grade.

Barrows, Robert Sterling, *The Relationship of Audio-Tape Playback to Client Perception of Counseling and Client Behavior Change in a Secondary School Setting.* State University of New York at Albany. 1970. 31/2676.

The purpose was to determine if the replay of recorded counseling sessions would affect the perceptions of clients toward counseling relationships and result in changes of behavior. One hundred and twenty students were used from five secondary schools. Four groups were organized: counseling with audio feedback and discussion, audio feedback with no discussion, counseling only, and no counseling. No significant differences were observed.

Bell, Ronald Ernest, *An Analysis of Certain Elements of an Audio-Tape Approach to Instruction.* University of Washington. 1969. 30/4788.

A study involving 50 sophomore college students, 32 audio-tapes and three optional seminar sessions was conducted. It was determined that students prefer audio-tapes of less than 21 minutes; students with high need for autonomy will show better performance on examinations based on those tapes than students who tend to be medium or low in autonomy need. There is no difference between male and female performance as measured by class evaluation.

Bergantino, Leonard Daniel, *The Effects of Systematic Audio-Tape Feedback Upon Both the Counseling Relationship and Educational Attitudes.* University of Southern California. 1971. 33/9660.

Audio-tape feedback was compared with traditional counseling techniques. Forty junior high students were used. Traditional and innovative methods were equally effective in "change in attitudes toward education" and counselee perception about level of relationships provided by the counselor.

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Boris, Thomas Edward, *A Comparison Study of the Efficacy in Utilizing Audio-Taped Peer Models and Counselor-Presented Symbolic Models as Techniques for Reducing Shyness in Adolescents.* University of Maryland. 1972. 33/2096.

Group counseling sessions were conducted where subjects listened to an audiotape recording or a counselor reading a script on how to overcome shyness. Comparing the control group with those receiving audiotape modeling, there was a significant reduction of shyness in the latter group.

Brewster, Elizabeth S. Green, *Personality Factors Relevant to Intensive Audio-Lingual Foreign Language Learning.* The University of Texas at Austin. 1971. 33/68.

Three hundred and ninety-two male subjects were used. Their language aptitude scores and achievement scores were analyzed using regression analysis, multiple regression and single analysis of variance as achieved by over and under achievers. The personality traits which were found to indicate a successful language student indicate that the person would be persevering, intellectual, analytical, trusting, easy to get along with, adaptable, outgoing, resourceful, creative, warm and spontaneous.

Brown, Alpha Otis, III, *The Development and Application of Audio-Tutorial Materials for Teaching Selected Units in Semiconductor Electronics.* Texas A & M University. 1971. 32/1315.

This study showed that the audio-tutorial (AT) format did not improve performance, but did save instructional time and yielded better use of facilities and equipment. It also permitted the student to proceed at a faster rate.

Brown, Everett Rittenhouse, *An Investigation of the Comprehension of Compressed and Non-Compressed Speech With Unilateral and Dichotic Variations.* Temple University. 1972. 33/2160.

One hundred and twenty-one subjects were randomly divided into six test groups: right/left ear with normal speech, right/left ear with 2:1 compression, both ears dichotic speech, both ears using 2:1 dichotic compressed speech, dichotic listening, both ears using 2:1 dichotic compressed speech. Dichotic listening seems to be inefficient. Compressed speech at 2:1 rate does not result in significant loss. Dichotic material does not suffer further degeneration at a 2:1 ratio. Right-handed students have some preferential right eared listening tendency.

Buffington, William David, *A Study of Some Variables in the Application of the Audio-Tutorial Approach to the Teaching of Russian.* Purdue University. 1971. 32/3661.

This study examined the use of audio-tutorial techniques and found that AT retarded forgetting and that learning and recall of one group was significantly better.

Burford, Thomas Earl, *A Study of Student Reactions Towards Audio Instructional Systems That Provide or Deny Means of Individual Control of the Presentation.* Syracuse University. 1971. 32/4480.

Lack of playback control increased neagative mood factors and presence of playback control led to positive mood factors. Design and development of instructional technology systems should consider the implications of this in regard to selectively controlling the presentation.

Burris, Joanna S., *The Construction, Implementation, and Evaluation of an Individualized Audio-Tutorial Program in Basic Mathematics for College Students.* University of Pennsylvania. 1972. 33/1581.

A program was developed in the audio-tutorial (AT) format. The author used a highly systematic method of developing the course material. Results showed that the program was very successful in overcoming a student's diagnosed deficiencies. The author concludes that the AT approach with diagnostic-prescriptive tests is a viable method for individualized remedial instruction for college students.

Butts, Franklin Eugene: see Programmed Instruction

Cornell, Evart Frantz, *Observational Learning of Question-Asking Behavior Through the Medium of Audio-Tapes.* University of Maryland. 1969. 31/1112.

The purpose was to determine if experienced teachers (seven years) would ask more evaluation questions (Bloom's taxonomy) after exposure to two audio-taped model sequences prior to teaching a micro-lesson to three children. The control group was not exposed to the audio-taped material. Each question asked by teachers was classified by three independent observers. Results showed no improvement. Sixty-six and two-tenths per cent of all questions fell into the two lowest categories of Bloom's Taxonomy.

Eckhardt, Wymond Walter, Jr.: see Programmed Instruction

Eddington, George T., *Awareness of the Audio-Lingual Approach to Modern Foreign Language Instruction by Teachers in Michigan.* Wayne State University. 1970. 32/160.

This study tried to determine how teachers perceive the application of the audio-lingual approach and to see how teachers accept its concept. Support was indicated for the audio-lingual approach.

Edwards, William Russell, Jr., *The Use of Focused Audio Feedback in Group Counseling with Adolescent Boys.* University of Georgia. 1969. 30/5232.

The purpose was to use focused audio feedback to bring about positive changes in observed classroom behavior and in self-evaluation. Two experimental groups of ten and one control group of 27 junior high boys, ages 12-14, were used. One group received an eclectic interview approach, the second group a focused audio feedback approach. The control group received no counseling. No positive changes in behavior occurred because of positive audio feedback.

Emery, Harriett Elenor, *Mathematics for Prospective Elementary Teachers in a Community College: A Comparison of Audio-Tutorial and Conventional Teaching Materials and Modes.* Michigan State University. 1970. 31/5930.

Audio-tutorial materials were compared with a commercial text and attitudes toward selected aspects of mathematics were compared. The audio-tutorial method was more successful than the conventional method in several instances. All groups favored the audio-tutorial laboratory above the conventional method of teaching.

Eppler, Jerry Mack, *The Effect of Audio-Tape Directed Groups on the Training of Student Assistants.* Arizona State University. 1971. 31/5761.

Attitudes, developmental behaviors, and accuracy of interpersonal perception were attempted to be modified through the use of audio-tape as a medium. Six groups, three treatment and three control groups were used. Six conclusions were reached, one of which stated that interpersonal perceptions pertaining to student assistants in acceptance by and of others had significantly higher results in the experimental group.

Farlow, William Chapman, *A Comparative Study of the Effects of Audio Materials Compressed by the Speed Changing Method on the Spelling Achievement of Elementary School Students.* Wayne State University. 1971. 32/6288.

Subjects were given spelling words at 118, 131, 146, and 162% of normal speed. Errors determined the effectiveness of the presentation speeds. No significant differences resulted from higher speeds of presentation.

Fischer, Robert A., Jr.: see Television

Gardiner, Joseph S., *A Study of the Effects of an Audio-Tutorial Reading Program on Student Achievement, Attitudes, and Classroom Behavior.* Syracuse University. 1971. 32/4487.

Change in cognitive and affective behavior was studied by comparing audio-tutorial (AT) techniques with more traditional methods. Significant gains occurred in reading improvement and in pupil self-directiveness. Students enjoyed the process and the study demonstrated that it was possible to have an AT program in a self-contained classroom without elaborate laboratory facilities.

Gates, Richard Wade, *An Analysis of Student Outcomes Using Audio-Tapes to Supplement Reading in the Level One Course of the Intermediate Science Curriculum Study.* The University of Iowa. 1970. 31/2754.

The purpose was to determine if the use of audio-tapes as a supplement to the Intermediate Science Curriculum Study would be effective with poor readers. A year long study was conducted. At the .05 level it was found that students using audio-tapes have a greater preference for science, achieved course principles significantly more, have the same understanding of science, have a greater science vocabulary, have a greater reading vocabulary and also have a greater reading compehension. They did not achieve a different overall reading grade improvement, a greater teacher rating nor did they proceed at the same rate of speed.

George, Robert Glen, *Difficulty of Material and Retention of Compressed Speech.* Indiana University. 1969. 30/2724.

The purpose was to investigate the effects of the words per minute rate of presentation of audio material on the comprehension and retention of two versions of prose material designed to differ in difficulty. Sixty-four subjects participated. The criterion test was 36 multiple *choice questions given at two different time periods. A 4x2x2 design was used with a control group and an experimental group. Material was recorded at 175 words per minute and compared to 275, 325, and 375 words per minute.*

Gifford, David Stanley, *The Effectiveness of Training in Listening to Compressed Speech as a Means of Increasing the Listening Comprehension of Disadvantaged Minority Group Children.* The University of Connecticut. 1971. 32/6099.
The subjects were presented materials at speeds increasing from 10% to 40%. The control group listened at 165 words per minute. Results showed no significant gain as a result of the experiment.

Greene, Robert Judson, *The Growth of Radio in the State University of New York.* Syracuse University. 1970. 31/5812.
Three aspects of radio utilization were studied: radio as a means of reaching the public, radio as a student activity, radio a a curricular activity. Recommendations include: the State University should provide a major in broadcasting, it should research instructional uses of radio, it should expand commercial radio programming, should investigate a statewide system, should reconcile student radio and State University radio, and should carefully weigh new FM construction.

Grobe, Cary H., *Comparisons in College Biology Achievement Between the Audio-Tutorial and Conventional Methods of Instruction for Non-Science Majors.* The University of North Dakota. 1970. 32/6824.
Achievement, aptitude and achievement, and background were compared. No significant differences were found.

Gryde, Stanley Kermit, *A Paradigm for the Application of the Audio-Tutorial System in Construction to the Secondary School.* University of Southern California. 1971. 32/3136.
Eight case studies were analyzed to see if a single paradigm could be developed. No single paradigm could be identified or developed. Most students and teachers preferred the audio-tutorial (AT) models. Recommendations are made to use the AT approach at several levels of instruction and in several areas of instruction. The author believes the easiest way to place the AT format in the schools is with a commercially produced AT algebra course and teach it during the summer.

Haggard, Floretta Faubion, *An Audio-Tutorial Model for First Year General Chemistry: An Operational Plan for Claremore Junior College.* The University of Tulsa. 1972. 33/1078.
This study asked what the audio-tutorial (AT) program in junior college chemistry should be from 742 junior college professors who teach chemistry. Fifty-nine were chosen to fill out a questionnaire. Forty-one subjects completed the questionnaire. Analysis of the questionnaire resulted in 15 suggestions to be followed when developing an AT format for junior college chemistry.

Herriman, Ernest Donald, *A Pilot Study of the Suitability of the Audio Modular Instructional Approach for the Continuing Education of School Administrators.* University of Massachusetts. 1971. 32/4876.
The subjects were given instructions via audio-tape under controlled conditions. No conclusions were made regarding the suitability of audio-taped module units for inservice training. It was regarded as interesting and exciting, as good or better than other inservice methods, and as easy to use.

Himes, Craig L., *An Exploratory Study of the Audio-Tutorial Approach in the Teaching of General Biology at the College Level.* University of Pittsburgh. 1971. 32/6780.
This study found the use of the audio-tutorial (AT) format to be well-liked by students. Achievement levels were recorded at both the .05 and .01 levels of confidence.

Hinds, Conrade Carlyle, *An Audio-Tutorial, Independent Study Program for the Elementary Teacher.* Ball State University. 1971. 32/3114
A program was developed to teach elementary in-service teachers. The experimental group showed a significance at the .001 level of confidence. Recommendations were made to use the program in conjunction with elementary pupils to measure increase in teacher competence.

Hinton, John Richard, *The Audio-Tutorial Instructional Model and Its Use in California Community Colleges.* University of California, Berkeley. 1972.
No abstract available.

Hoehn, Robert Elton: see Projected Materials: Stills

Hoffman, Frederic Eugene, *A Comparison of the Relative Effectiveness of Two Methods of Audio-Tutorial Instruction (Direct and Indirect) in Teaching Biological Concepts Concerning Heredity.* Syracuse University. 1969. 31/246.

Both groups were taught in an audio-tutorial (AT) format. The indirect group showed a significant difference in being able to solve problems. No significant difference was found between the two groups in total achievement, critical thinking ability, or retention. A significant change in attitude toward AT as a teaching method was found.

Hoffman, Larry Dean, *Audio-Tutorial Versus Conventional Methods of Teaching Slide Rule.* Iowa State University. 1971. 32/4242.

This study showed that the audio-tutorial (AT) format was as effective as the more traditional format for teaching the use of slide rules. It also showed that AT format boosted the success of low achievers. The experimental group mean excelled the control group mean on three of the four examinations given in conjunction with the study.

Holliday, William Gibson, *An Analysis of Science Instructional Techniques Using Different Media in Learning and Testing Modes.* The University of Texas at Austin. 1970. 31/5668.

Combinations of audio and printed materials as found in audio-tutorial systems are explored. Three hundred and fifty tenth graders were in nine subgroups. There was no advantage in using simultaneous audio and printed materials, and no advantage in using the same media combinations for testing as for teaching.

Hopkins, Fred Wright, Jr., *An Experimental Study of the Effects of Repetitive Compressed Speech on Listening Comprehension.* University of Maryland. 1969. 31/293.

The purpose was to determine if more or less comprehension occurred when material was compressed in time. It was determined that comprehension decreases as speed increases and that repeating material at two times the speed but in the same amount of time did not increase comprehension.

Horikawa, Herbert Jun, *A Study of Audio and Video Presentations of a Combined Modeling and Instructional Treatment on Client Self-Exploration.* Temple University. 1972. 33/1439.

It was hypothesized that different levels of self-exploration will result from different treatments, and that males would differ from females. The hypotheses were not supported.

Husband, David Dwight, *Analysis of Certain Components of the Audio-Tutorial System of Teaching.* Purdue University. 1970. 31/1643.

The purpose was to determine if the threat of a grade in an oral quiz has an effect upon the amount learned. Thre groups were used: oral grade with the teacher selecting the student, no oral grade with the teacher selecting the student, and no oral grade with the student volunteering. No significant difference was found between the groups.

Johnson, George Willard, *The Effects of Compressed Speech on the Ranking of Empathic Understanding on Client-Counselor Recorded Interviews.* University of Georgia. 1971. 32/4953.

Subjects were given four of 28 segments to rank on the basis of counselor expressed empathetic understanding. Speech compression of up to 270 words per minute did not affect the measurement of empathetic understanding. Expert judges could determine seven levels and students (trained) four levels of empathetic understanding.

Johnson, Janet Mae, *The Effects of Compressed Speech on the Reading Rate, Comprehension Level, and Attitudes of Fourth-Grade Students.* University of Colorado. 1971. 32/3864.

The subjects were assigned to time compressed, timed-test and control groups. Reader's Digest Reading Skill Builders were used. Speed increments of 25 words per minute went from 150 to 275 words per minute in 18 days. Seventy-two subjects took part. Standard classroom reading instruction seems to be as equally effective as the experimental materials.

Johnston, Arden Eugene, *Audio-Tutorial Versus Traditional Instruction in Seventh Grade Mathematics in the Boone Junior High School.* Iowa State University. 1969. 30/955.

One hundred and thirty-nine students were randomly assigned to an audio-tutorial group (AT) (71 students) or a control group (68 students). The control group received lecture instruction. There was no significant difference between groups. Seventy-five per cent of the students wanted to continue with AT.

Kahle, Jane Butler, *The Effect of an Advanced Organizer and the Predictive Ability of Micro-Learning Tasks When Utilized with Carefully Sequenced Audio-Tutorial Units.* Purdue University. 1971. 32/5061.

This study utilized advanced organizers and micro-learning tasks in the learning task. Neither variable exerted a significant influence on the learning outcome.

Long, George Robert, *A Study on the Preparation of an Audio-Tutorial Minicourse.* Purdue University. 1970. 31/1690.

Several methods besides AT methods were used including programmed materials, printed texts and laboratory manipulations. No significance was found between instructional methods.

Luttrell, Homer Dale, *The Effect of Supplementary Audio Tapes on the Performance of Seventh-Grade Students Who Read Below Grade Level and Were Enrolled in an Individualized Science Program—ISCS.* The Florida State University. 1971. 32/1366.

The purpose was to compare the use of audio-tapes with a control group using Intermediate Science Curriculum Study materials. The students were compared in four different ways: an achievement test, a standardized arithmetic test, a standardized reading score and rate of progress. No significance was reported.

McVey, Gary C., *An Experimental Evaluation of the Effectiveness of an Audio-Tutorial Method in Teaching Vocational Agriculture.* Iowa State University. 1970. 31/4645.

The material covered was animal health, commercial fertilizer and small gasoline engines. Six schools were used. Audio-tutorial materials were as effective as the materials conventionally used in control groups.

Mitchell, Donald Wayne, *A Comparative Study of Audio-Tutorial and Conventional Laboratory Approaches in College Biology.* University of Northern Colorado. 1971. 32/1882.

Results of this study indicated that the audio-tutorial (AT) format is neither better nor worse than conventional methods, is no less costly, must have faculty involvement to lessen resistance to it, and materials must be revised in order to use the AT or conventional system of instruction.

Morman, Shelba Jean, *A Comparison of an Audio-Tutorial Approach and the Traditional Lecture-Discussion Approach to the Teaching of Remedial Algebra in a Junior College Setting.* University of Houston. 1971. 32/5673.

This study found that the audio-tutorial (AT) format produced no significant differences from the traditional format on attrition attitudes toward the subject matter.

Nance, John Bonner, *An Operations Research Study of the Fullerton Junior College Audio Tutorial System.* University of Southern California. 1971. 32/676.

This study analyzed costs of the audio-tutorial (AT) system. A model was developed to predict costs over a five-year period. Results showed that AT cost $0.258 per student hour while conventional costs were $0.373. The research supports a decision to expand AT to all sections of general psychology.

Napier, Grace Donkersloot, *An Investigation into Extended Use of Time-Compressed Speech With Intermediate-Grade Subjects.* Temple University. 1968. 31/5943.

The purpose was to determine if training is an important factor in the use of time compressed speech. Findings show that fourth grade students surpassed fifth grade students, showing that training is important. Visually handicapped students surpassed normally seeing students. When time compression was used in testing, experimentals surpassed controls.

Nord, Richard Paul, *Achievement in Audio-Tutorial College Biology Under Varied Attendance Requirements.* University of Georgia. 1970. 31/5877.

Required versus voluntary attendance was compared. No significant difference was found in achievement. However, a positive student attitude toward biology, the AT method, the small assembly session, the instructor and the open laboratory was found.

Nutter, Neill Hodges, *The Compilation and Evaluation of Instructional Objectives for Introductory Geology Courses Taught by the Audio-Tutorial Approach at Institutions of Higher Learning in the United States.* Michigan State University. 1971. 32/1263.

Several schools were examined to determine how the departments used the audio-tutorial (AT) approach. It was found that not all schools claiming to use the AT format did so as formulated by Postlethwait.

Nyeu, Frances Cheng-Chung, *Differences in the English Language Achievement of Twelth-Grade Chinese Boys in Taiwan Instructed by the Traditional and the Audio-Lingual Methods.* Brigham Young University. 1970. 31/936.

The purpose was to determine if the audio-lingual method of teaching was superior to the traditional method of teaching twelfth grade Chinese boys English. The experimental group scored significantly higher on the Michigan Test of English Language Proficiency, the Test of Aural Comprehension and the three combined tests, and scored higher but not significantly so on the Examination in Structure.

Oakley, Gary Douglas, *The Feasibility of Compressed Speech for Prevocational Education.* Southern Illinois University. 1970. 31/5291.

The purpose was to compare prevocational materials as presented at six different compressed speeds with conventionally recorded lectures. Learning by conventionally recorded speech is greater than learning at compressed rates even though one group (65% compression) listened and read at the same time.

Pace, Floyd Arthur, *The Bases in Pragmatism of the Audio-Lingual Method of Teaching Modern Languages.* Iowa State University. 1972. 33/1462.

This was a non-empirical study. A listing of 11 recommendations was given, including that .
teachers must realize the necessity of using the foreign language most of the time during each class period and that teachers must become open-minded in their development of methods.

Pellett, Vernon Llano, *The Comparative Effectiveness of the Educational Telephone Network and Face-to-Face Lectures for University Extension In—Service Training.* The University of Wisconsin. 1970. 31/1000.

The purpose of this study was to determine if an Educational Telephone Network was as effective as face-to-face work in cognitive learning. A control group was used. No significant differences were discovered. ETN is effective in teaching cognitive skills. ETN was favorably received.

Pierce, David Randall, *A Comparison of the Conventional, Printed-Programed and Audio-Programed Methods of Teaching Remediation-Oriented Mathematics.* Purdue University. 1969. 30/4692.

A random assignment of 43 students was made to three groups, lecture-discussion, printed-program and audio-program. Four predictor scores were used: motivation, attitude, reading comprehension and pre-treatment achievement. Results showed that high reading students learned more under the printed-program method. Attitude gain suffered under the printed-program method. Lecture-discussion showed the greatest gain at the first cognitive level, but all three methods were equal at second and third cognitive levels.

Presnell, Richard William, *The Development and Evaluation of an Audio-Taped Program of Instruction in Learning Concepts of Ecology and Conservation.* Cornell University. 1971. 32/4927.

Subjects were given input via audio-tape. Other materials such as slides, bulletin boards, and nature guide books were also used. Learning gains were not significant, but learning occurred.

Priselac, Nancy J.: see Television

Quick, Charles Leonard, *An Analysis and Evaluation of an Audio-Tutorial Approach in the Biology Laboratory at the University Community and Technical College, The University of Toledo.* The University of Toledo. 1971. 32/3871.

This study compared audio-tutorial (AT) with a conventional lecture-laboratory method. AT format was judged to be superior to the conventional method because the experimental group excelled the control group. The students liked the AT experience.

Reid, Saralou Leavy, *The Effect on Reading Achievement of Reading Paced by Compressed Speech.* Indiana University. 1971. 32/1198.

The purpose was to determine the effect of simultaneous reading upon reading achievement level and related reading skills. Sixty second grade students were randomly assigned to experimental or control conditions at speeds of 125, 175, or 225 words per minute. Auditory discrimination showed significantly greater gains at 175 words per minute. Vocabulary scores increased when children listened and read.

Reiland, Mary Luke, *The Effect of Compressed Speech on Reading and Listening Abilities of Sixth-Grade Children.* Rutgers University The State University of New Jersey. 1970. 31/1149.

The purpose was to determine if using compressed speech would result in improved reading comprehension, rate, and listening ability. Rates were in 25 wpm increments beginning with 175 wpm and ending with 300 wpm. The combinations of reading and listening, listening only and reading only were used. No significant difference was found although with the reading and listening combination there was a tendency to perform better as evidenced by higher mean score. The relationship between reading and listening and between each of these two skills and intelligence was significant beyond the .01 level of confidence.

Roach, Donald Wycoff: see Programmed Instruction

Roberts, Gilbert L., *The Effects of Reinforced Exposure to Audio-Taped Counseling Responses at a High Level of Facilitation Upon the Level of the Functioning of Counseling Trainees.* State University of New York at Buffalo. 1972.

No abstract available.

Sadler, Edward Joseph, *A Model for Teacher Behavior in Level I Audio Lingual Language Programs Based on an Analysis of Current Teaching Methodology and Teacher Preparation.* The University of Nebraska-Lincoln. 1969. 30/3839.

The purpose of this study was to construct a system of observing and evaluating teacher performance in the teaching of Spanish, level I, with audio-lingual programs and to determine how prior experience helped or hindered teacher classification as determined by the instrument constructed. Can Spanish, level I, teachers be classified into "recommended" and "not recommended" groups? The evaluation system was found to be valid and suited for its purpose by a jury of authorities.

Sarenpa, Dennis Edward, *A Comparative Study of Two Presentations of Rate Controlled Audio Instruction in Relation to Certain Student Characteristics.* University of Minnesota. 1971. 32/1199.

Time compressed speech was compared with the normal rate of audio recordings in the teaching of freshman Biology. Audio tapes were compressed to 60% of the original recording time. Results show a savings of 12.3% in time and no difference between the two. Personality characteristics had a low correlation with achievement.

Schloss, John Jacob: see Television

Schwab, Reiko, *Effects of Speech Compression of Counseling Interviews on Therapeutic Process Variables.* Western Michigan University. 1972. 33/977.

Four therapeutic process variables were studied: counselor's accurate empathy, nonpossessive warmth, genuineness, and client's depth of self-exploration. Subjects' comprehension of counseling dialog declined as speed increased. Significance at the .05 level was found with "evaluation of accurate sympathy." Moderate compression can be applied to counseling dialog.

Senour, Robert A., *A Study of the Effects of Student Control of Audio-Tape Learning Experiences (Via the Control Functions Incorporated in the Instructional Device).* Wayne State University. 1970. 31/3351.

The purpose was to study the effect controls would have on audio-tape devices. Providing control functions will aid learner achievement. A positive correlation between learner achievement and student control was found. A positive preference was found for using controls.

Skinner, Phyllis Hazel, *Listening Comprehension of Time Compressed Speech as a Function of Variations in Word Rate and Type of Evaluation Instrument.* University of Pittsburgh. 1972. 33/655.

Speeds of 175, 225, 275, 325, and 375 were used. Listening comprehension declined as a function of word rate, but only at 375 as compared with 175 and 225 wpm. Time compression can be used for educational presentations *at slower rates without loss of comprehension.*

Steffen, Robert Fredrick, *Unobtrusive Observation of Student Non-Verbal Behavior in Audio-Tutorial Self-Instruction.* Syracuse University. 1971. 32/5678.
This study was conducted by using a closed-circuit television monitoring system. Time spent in the laboratory does not appear to be related to post-test achievement. Students and observers reported time correlates. Post-test scores were not closely related to entry level variables. Unobtrusive observation was successful.

Taylor, Ralph Clinton: see Programmed Instruction

Thorsland, Martin Nils, *Formative Evaluation in an Audio-Tutorial Physics Course With Emphasis on Intuitive and Analytic Problem-Solving Approaches.* Cornell University. 1971. 32/4931.
This study investigated the effectiveness of the audio-tutorial (AT) format and the identification, classification and study of differences in problem-solving approaches using a theoretical approach derived from D. P. Ausubel. The experiment was regarded as a success.

Tucker, Paul Edward: see Television

Tuttle, Dean William, *A Comparison of Three Reading Media for the Blind: Braille, Normal Recording, and Compressed Speech.* University of California, Berkeley. 1972.
No abstract available.

Walker, Charles Robert, *Comparison of the Compressed Speech Machine and the Self-Improvement Method: Two Techniques for Increasing the Rate of Reading of Sixth-Grade Gifted Pupils.* University of Pennsylvania. 1970. 31/2625.
The purpose of the study was to compare a compressed speech machine technique with the Preston-Botel Self-Improvement Method against a control group. Immediate posttests were significant for both experimental groups, but delayed tests given six weeks later were not. Girls performed better than boys.

Walker, Mary Ann, *The Comparative Effects of Two Methods of Automated Instruction, One Visual and One Auditory, In Teaching Selected Problem-Solving Behaviors to Two Groups of Sixth Grade Students.* Saint Louis University. 1972. 33/980.
The selected problem-solving behaviors of observing, comparing, classifying, interpreting, analyzing, making assumptions, summarizing, critical thinking and an example of problem-solving were used to measure effectiveness of the two teaching methods. No significant differences were found.

Welker, James Doyt, *Selected Factors and Achievement in an Audio-Tutorial Introductory College Biology Course.* Indiana University. 1969. 31/249.
Audio-tutorial methods were compared with traditional instruction. Prior experience in subject matter contributes to success. Males do equally well with either method. Females do better with AT. Size of high school class, number of hours spent in the library and listening comprehension do not affect achievement.

Wills, Larry Dean, *Application of the Audio-Tutorial Technique of Instruction to the Teaching of Secondary Social Studies.* Purdue University. 1971. 32/4498.
This study was organized into four major headings: 1) history and description of audio-tutorial issues 2) issues associated with AT 3) applications of AT to secondary social studies and 4) implications for use in secondary education. Advantages of AT techniques include: students can use a variety of materials, students can learn at their own pace and the teacher is free to work with students more independently.

Wiper, Robert Ellis, *The Effectiveness of Audio-Monaural Equipment in Skill-Building in Typewriting.* Oregon State University. 1969. 30/3373.
Three control and three experimental groups of 146 students selected by a random sampling were used to determine if electronic auditory contact through headsets would result in improved typing. Dictaphone transcribers were also used. All tests showed no statistically significant difference between experimental and control groups. However, a significant difference was noted for the experimental group at the 5% level among sections on the speech improvement analysis.

Yenawine, Gardner Drew: see Television

AUDIOVISUAL

Abedor, Allan Joseph, *Development and Validation of a Model Explicating the Formative Evaluation Process for Multi-Media Self-Instructional Learning Systems.* Michigan State University. 1971. 32/4915. *

The study developed and tested a model for tryout and revision procedures of prototype systems. One model was valid, helping to identify and remediate major instructional problems. The model was feasible in that three authors were willing and able to use it. It was effective, as measured by significant differences in results of the revised version compared with earlier versions of self-instructional programs. One model is simplified, the other is more detailed, for use by instructional specialists.

Abeles, Howard Robert, *The Audio-Visual Director as an Agent and Object of Change in Selected Connecticut School Systems.* Columbia University. 1970. 31/3191.

AV directors in seven districts were analyzed for an 11-year period. Four instruments were used to record data, two interview forms and two questionnaires. Of nine areas explored, low-level performance was found in personnel, in-service education, public relations, publications, and program evaluation. The district superintendents had no clear idea of what these positions should be. The jobs were basically equipment and materials management.

Ainsworth, Thomas David, *Frequency of Visual Change in Multi-Channel Communication as a Factor in Maintaining Attention and Creating Attitudes to Media and Message: An Experimental Study.* University of Southern California. 1970. 31/3158.

Eighty high school students heard an audio narration presenting a hostile argument, and viewed 28 slides. Three groups had the visuals changed every 1, 5, or 10 seconds. The hypothesis was rejected that greater attitude change toward the attitude of the narrator would occur.

Allen, Roy Curtis, *An Evaluation of Educational Media Programs in Oklahoma Universities and Colleges.* The University of Oklahoma. 1972. 33/2003.

Thirty-six schools were included. Programs on media utilization and in-service training are not usually provided to faculty. The programs are usually not part of the instructional programs. Facilities are not readily available to faculty. Equipment and personnel are inadequate to meet potential demand. The quality of the program is related to quantity of resources available.

Anderson, Edward Lawrence, *The Educational Media Building Coordinator: His Role as Perceived by School Administrators.* Michigan State University. 1970. 31/4374.

Personnel from forty-one districts filled out a questionnaire. Results showed administrators may be a barrier to change because of their lack of expertise and their perceptions. Incumbents have differing perceptions of role, some have inadequate training; there is high mobility rate. Conflicts may arise from the differing perceptions of incumbents and administration.

Anderson, Fred Eldon, *A Study of the Media Program of the Omaha Public School System.* The University of Nebraska-Lincoln. 1971. 32/2326.

Data came from interviews and questionnaires. Findings included a lack of planned coordination, competent employees were available, daily delivery to schools is feasible and the budgeted amount is less than ½ the recommended amount. Recommendations include several relocations of facilities, daily delivery to all schools, and a budget increase of 1% of the total operating budget.

Arterbury, Elvis Hugh, *Teacher Utilization of Media Services Provided by the Regional Education Service Centers in Texas.* East Texas State University. 1971. 32/4825.

Findings are from responses of 609 teachers. Factors in teacher utilization include length of teacher's service, grade level, favoring junior high and high school teachers, subject–social studies more often and mathematics less often; teachers with over three semester hours of AV training more often, and those with no training less often Weakness in center services were deterrents to greater teacher use of these media facilities.

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Barth, Edward Walter, *The Relationship Between Selected Teaching Structures and the Activities of Media Centers in Public Senior High Schools in the State of Maryland.* The George Washington University. 1971. 32/1540.

The teaching structures studied are teaching arrangement, teaching pattern, period schedule, and student use of media center. Those schools with fewer staff in the center still attempted to provide as many services. Amount of non-book material, budget allocations, seating capacity were similar in the various teaching structures. Recommendations include a need for para-professionals, centralized processing, more funds, and more involvement with the teachers and the students.

Batker, Kenneth Edward, *Some Multiple Channel Audio-Visual Materials in Mathematics and a Comparison of Their Use as Study Aids with Conventional Textbook Assignments.* University of Colorado. 1971. 32/6774.

Slides and tapes were used as supplementary materials. Groups used were conventional, A V, and both. Conventional teaching only scored significantly lower. Students of high preparation did significantly better. Students thought the program was helpful. Conclusions were that the slide-tape method did teach better, but helped the highly prepared students more.

Bauer, Dennis Eugene, *Current Practices in the Use of Selected Instructional Media in the Teaching of Business Subjects with Implications for Teacher Education.* The University of Nebraska-Lincoln. 1971. 32/2519.

A questionnaire-survey was used to gather data from 56 colleges and 503 secondary schools. Some findings were: the overhead was by far the most popular medium, methods teachers preferred to teach selection of materials rather than production, an increase in use was predicted only for video tape (its main use is for self-evaluation). Shorthand labs most used tapes in a lab setting, films and filmstrips are little used.

Baum, Dale, *The Effect of Media on the Connotative Meaning of Client Problems.* University of Kansas. 1970. 31/5753.

Media used were audio, typescript and audio-visual. Client problems were emotional or educational/vocational. One hundred and twenty teacher training students were subjects. Both audio and audio-visual groups saw client problems less negatively. There was a significant difference in perception of emotional problems and educational/vocational ones.

Bohls, Frederick Otto, *Developmental Patterns of Media Programs in Selected Junior Colleges in Texas.* The University of Texas at Austin. 1971. 32/5528.

Five junior colleges were studied with interviews. Only one had a highly developed media program in the six criterion areas studied. Deficiencies came from lack of funding, ineffective logistical support, poor design of facilities, lack of knowledgeable leadership.

Bollmann, Charles Gene, *The Effect of Large-Screen, Multi-Image Display on Evaluative Meaning.* Michigan State University. 1970. 31/5924.

The gross, affective impact of ten-minute presentations with ten-foot images and music was studied. The control group used a single-image program. A systematic main effect was found, but it could not be statistically ascribed to the presentation. Inconclusive evidence showed more positive shift from viewers closest to or farthest from the screen.

Bortz, Ellen Laubscher, *Electronic Recording Media, Microteaching Self-Critique, and the Questioning Behavior of Student-Teachers.* University of Maryland. 1971. 32/3147.

Thirty-six subjects were videotaped in microteaching. They then had a self-instructional unit and a practice microteaching session. One group watched this, another group listened to it only, another got no feedback. There was no significant difference between groups in percentage of higher order questions or probing. So, the use of video or audio for self-critique seems not worthwhile.

Bouck, Aubrey J., *Characteristics of Successful and Unsuccessful Participants in an Educational Technology Institutes Program.* The Catholic University of America. 1970. 31/2225.

Significant relationships were found between success and a positive attitude toward technology, a negative attitude toward conventional instruction, six-16 years of experience, educational level, released time, registration for academic credit. Those with high positive attitudes as measured by a semantic differential were least likely to change attitudes or be successful.

Boutwell, Colon Jesse, Jr., *Effects of Audio-Visual Order of Presentation and Strength of Grip on Manipulative Task Performance.* University of Missouri-Colombia. 1971. 32/5005.

Seventh graders in industrial arts were subjects. A super 8mm film illustrated the task procedures and an audio message gave instructions. It was found that a group *hearing the audio three seconds leading the visual performed significantly better than those with synchronized A-V. Thus, a lead time for auditory information seems to improve learning to perform a manipulative task.*

Branscombe, Frederic Ray, *The Pre-Service Professional Training of Teachers in the Province of Ontario, Canada, as it Relates to Instruction in the Selection, Production and Utilization of Aduio-Visual Instructional Materials.* New York University. 1969. 31/1111.

Pre-service training is a significant factor in later use or non-use of A V, and type of media preferred. The pre-service training has been insufficient. Colleges are unprepared to support even the present inadequate level of training. Colleges should have a department to coordinate A V training. Advantages of different media, and selection, production, and utilization of materials should be taught.

Brookens, Kenneth Lyle, *An Exploratory Study of Media Instruction of Pre-Service and Inservice Teachers at Oklahoma State University Based on an Analysis of Their Media Competency and Utilization.* Oklahoma State University. 1970. 31/5145.

Teachers who received pre-service media training, those with in-service training, and those with no media training were sent questionnaires. There was no interaction between training and experience. Media competence and utilization was significantly higher with those with pre-service media training. Trained teachers with 1-5 years of experience used more media than trained teachers with 11+ years of experience.

Brouch, Virginia M., *An Experimental Study of the Effect of Synchronized Slide-Tape Art Learning Experiences on the Tempera Paintings of Third and Fourth Grade Children.* Arizona State University. 1970. 31/1504.

Eighty subjects participated in 16 forty-minute meetings. The first, fourth, eighth, twelfth, and sixteenth paintings were evaluated. Slide-tape learning was as effective as learning from the class teacher or an art specialist. Art concept learning was facilitated. Gains were more significant at the third grade level.

Carlson, Ronald Paul, *Utilization of Newer Instructional Media by Professional Physical Education Faculty in Teaching Undergraduate Majors at Big Ten Universities.* Indiana University. 1971. 32/5013.

One hundred and thirty-four faculty were surveyed in nine categories of factors. Some findings are: a neutral attitude was held toward use of newer media, media information came mainly from faculty who prepared their own mediated materials and the Department of A V Instruction on campus. Most preferred were motion pictures, still pictures, film-loop, filmstrip, and videotape, and the use of media seems to be chiefly supplementary, with little interest in newer media.

Chadwick, Clifton B., *A Systems Analysis and Design for Development of Educational Technology in a Developing Country: The Case of Argentina.* The Florida State University. 1972.

No abstract available.

Coger, Richard Mondell, *The Development of a Selection Model and an Effectiveness Model to Assist Teachers in Monitoring the Levels of Accountability of Educational Media.* The Ohio State University. 1972. 33/1583.

A selection model and an effectiveness model were developed and evaluated. Applications of each are proposed. The models were judged to possibly serve as a basis for a system of accountability in selection and use of media for instruction.

Cyrs, Thomas Earl, Jr., *The Determination of Educational Objectives as Revealed in Teacher Prepared Tests as a First Step for the Proper Selection of Media Alternatives in Curriculum Development.* Boston University. 1970. 31/2245.

A year's tests in an English department in a high school were analyzed. Greatest emphasis was found at the lowest end of the Bloom taxonomy, while stated goals are at the high end of the taxonomy. This was true with all four tracks. A new approach to curriculum design is given. Three flowcharts on graphic analogs are the basis. A conceptual model includes the needs and goals of the individual, society, and the teacher, and organized knowledge and how it is taught.

Davis, Henry Clifton, *A Study of Instructional Media Equipment.* The University of Tennessee. 1970. 31/3202.

Administrators and teachers were interviewed to determine factors in purchase and use of media equipment. Schools did not meet minimum standards for equipment available. Equipment that was available was not used to its potential. A procedure was proposed which administrators might follow in determining needs and choosing equipment.

Davis, Lattice Rucker, *Public Elementary School Media Centers in Baltimore County,* *Maryland, as Compared with 'The Standards for School Media Programs', 1969.* The George Washington University. 1971. 32/1540.

A questionnaire was sent to the elementary media specialists in the county. There was 100% response. Some office personnel were interviewed. Over 50% of the centers provide most of the qualitative services. They are understaffed, about 1/3 are not certified. Budgets are below recommendations. There is insufficient equipment and quantitative standards are usually not met.

Didcoct, Don H., *Comparison of the Cognitive and Affective Responses of College Students to Single-Image and Multi-Image Audio-Visual Presentations.* The University of Wisconsin. 1972. 33/1316.

Two forms of two different programs were devised. Each was 30 minutes, with 60 and 72 slides and identical audio for each form. Multi-image programs do not necessarily increase learning; unless done carefully they can impair learning. Students preferred it to single-image programs.

Duncan, Lionel Sebastian, *The Impact of Technology on the Long-Run Cost of Educational Media (with Special Reference to Developing Educational Systems).* University of Southern California. 1971. 32/3555.

About 97% of the variation is explained in a complex model examined (monochromatic TV). When the model is applied to the educational process, two types of economy are found possible: economy of scales, and economy due to entropy. In both, increased amount of use rapidly decreases the cost per student curve.

Dyer, Palmer Edwin, *A Study to Identify the Role of the Media Technician in Education.* Temple University. 1970. 31/5928.

Questionnaire data and literature review showed that the many tasks performed by technicians can be grouped into specific major roles. Actual division of role responsibility is dependent on size and sophistication of the media program. Technician training programs are needed. Tasks assigned should be limited to technical or production assistance.

Eckhardt, Wymond Walter, Jr., *Learning in Multi-Media Programed Instruction as a Function of Aptitude and Instruction Rate Controlled by Compressed Speech.* University of Southern California. 1970. 31/2249.

Three hundred Air Force men were tested on learning from materials with audio at 150 words per minute, 210 (25% compressed) and 275 (40% compressed). Results showed that ability to learn was a function of aptitude. High aptitude subjects had no loss of learning at higher speeds. Overall, the time gained compensated for loss in learning scores.

Edgerton, Wilbert Delano, *The Function of the Educational Media Services Unit at Norfolk State College with Recommendations for Implementing a Centralized Media Program.* Columbia University. 1972. 32/6707.

Respondents at the college showed strong preference for: the centralized media services program, relative free access for students, more faculty and student participation in selection of media, materials, and equipment. The coordinator of the program should work at being a coordinator and a teacher-educator. Long-range plans and a philosophy and policy statement are needed.

Ellis, Jack D., *Selected Leadership Responsibilities of State Departments of Education in the Development of Educational Media.* University of Southern Mississippi. 1969. 30/2285.

A questionnaire included 50 items. The 45 states responding generally agreed. Order of emphasis on types of media is: projected materials, TV and radio, sound recordings, programmed learning. Leadership has been in aiding teachers in use of media, planning media services, developing media services, certification standards, conducting research and disseminating information, and utilizing media in curriculum development.

Erickson, Wallace Edwin, *Self-Perceived Needs of Media Personnel for Professional Media Preparation.* University of South Dakota. 1972. 33/2961.

Media personnel in the field were surveyed. Most were female, certified, experienced teachers. Needs were: cataloging and classification of print materials being the most important, guidance of children and adolescents in selection of materials, the role of non-print materials, and knowledge of A V equipment and curriculum and instruction. Not needed would be use of computers, history of A V, micro-materials, radio and TV in education, history of libraries, and emerging technology.

Faison, Ruth Ann, *A Study of Specified Behavioral Changes in Four Groups of Sixth Grade Boys Using (1) Group Counseling 2) Group Counseling and Multi-Media Presentation 3) Multi-Media Presentation, and 4) No Treatment.* Saint Louis University. 1972. 33/969.

Multi-media training alone produced greater change in personal behavior, academic motivation and performance, and socio-emotional state. Multi-media and counseling produced change in personal and academic behaviors, classroom conduct, and teacher dependence. A social model presented through a multi-media mode can aid in changing behavior in pupils.

Feeley, Joan T., *Interest Patterns and Media Preferences of Boys and Girls in Grades Four and Five.* New York University. 1972. 33/190.

Print and TV preferences of 532 subjects were elicited. Sex is a major determiner of interest; boys like sports, excitement, and information while girls like social empathy, fantasy, and had recreational interests. The theory was confirmed that children's interest patterns extend through all media. The theory was partly supported that children look to print to satisfy informational needs and to TV to satisfy fantasy and entertainment needs.

Fields, Dennis Carrol, *An Evaluation of the Relevance of the Graduate Audio-Visual Program at East Texas State University.* East Texas State University. 1971. 32/5565.

Three groups were subjects: graduates working in the A V field, their supervisors, and graduates not in A V. Questionnaire data showed significant differences only in the area of equipment acquisition and maintenance operation. There was a high degreee of conformity in the responses. Highest importance was given to administration, utilization and consultation, and instructional development and design. Maintenance and repair need not be taught.

Fite, Robert Edward, *The State of Audio-Visual Services for the 1966-1967 School Year as Rendered by Fifteen Full-Time Audio-Visual Building Coordinators on Long Island, New York.* Indiana University. 1969. 30/4717.

A questionnaire and interviews studied 15 subjects, their principals, and three teachers. Teachers and administrators report a lower level of performance than subjects report. They desired less A V services than subjects offered, and wanted some different services. Deterrents were lack of teacher preparation time for production, lack of preview time, and lack of production facilities. Greater professional training was needed.

Fitzpatrick, Edmund W., *Application of Educational Technology to Designing the Curriculum and Individualizing Instruction.* The Catholic University of America. 1970. 31/2250.

Successful and unsuccessful ways of applying technology to a major curriculum development project in the social sciences are studied. The study analyzed the development and planning of this project. It found that the development model necessary to produce the specified course was greatly different from the original plans.

Fontan-Pueyo, Jose, *A Review of Adult Educational Health Needs In Venezuela and the Possible Use of Instructional Radio, Television, Multi-Media and Methods to Help Meet the Defined Needs.* Michigan State University. 1970. 32/160.

The study presents a "total communication program" on family planning. It uses filmstrip, radio and television. Recommendations of the study include a pilot project, use of existing facilities, new TV stations and radio stations.

Fradkin, Bernard, *An Investigation of the Effects of Multi-Image Stimuli on Later Recall of Tenth Grade Students.* University of Pittsburgh. 1971. 32/1978.

Linear, two, and four-image programs were tested with recall intervals of immediate, one-day, and one-week recall. The content was 16mm presentation of 40 still cartoons. All groups showed a decrease in recall from one to two to four images, and a decrease over time.

Gavino, Pablo R., *A Study of the Perceptions of School Principals of the Barriers to Introducing Educational Technology into the Public Junior and Senior High Schools of Washington, D.C.* The Catholic University of America. 1970. 31/5664.

Questionnaires from 36 principals were used. Of 14 potential barriers, none were found of major importance and five were of minor importance. They were concerned with the difficulty of training teachers to write programmed materials, difficulty of providing in-service education, classes of 30+ pupils, no educational technologist, and no funds.

Gilkey, Joseph William, *Learner's Selection of Instructional Materials and the Relation of These Selections to Their Learning.* The Pennsylvania State University. 1970. 31/5267.

Seventy seventh graders were chosen from schools with media programs. Learners rank ordered ten media in order of their preference to accomplish objectives. Science teachers also rank ordered the media. Both groups chose media which are visually and pictorially oriented. There was no significant difference in the media chosen by the two groups, nor was a learning difference found between those learning by media of their choice and of the teachers' choice.

Gillespie, John Thomas, *A History and Descriptive Study of the Media Centers of the Montgomery County Public Schools, Montgomery County, Maryland (1948–1969), (Volumes One and Two).* New York University. 1970. 31/5811.

Both historical and descriptive methodologies were used. Growth and development are traced. Underlying characteristics of the program are given, along with recommendations for further growth and development. The superintendent, his immediate staff, and the Department of Educational Media and Technology were the most important change agents. National standards were generally not met.

Goodrich, Howard Bruce, *An Investigation of the Differential Effects of Four Different Media on Information Acquisition and Perception.* University of Maryland. 1970. 31/3775.

Media used were TV, audio, face-to-face lecture, and print. Four literary forms were used with 200 eighth graders. No significant differences were found using reading test scores. The conclusion is that the effects of the medium may not be noticeable under normal learning conditions.

Gottardi, Leslie Paul, *A Study of Procedures and Rationale Employed in the Development of Budgets for Audio-Visual Instructional Materials in Selected Public School Districts of Pennsylvania.* University of Pittsburgh. 1971. 32/1746.

The greatest rationale for the A V budget is improvement of teacher effectiveness and efficiency. Focus was on the teacher, not the student. Federal money had little influence on the A V budgets. Seventy-eight per cent of those involved in innovative and change activities increased their A V budgets as part of the change. Nationally recommended figures seemed unrealistic.

Grabow, Wesley John Fred, *The Development of the Audio-Visual Education Program at the University of Minnesota.* University of Minnesota. 1970. 32/211.

The historical study technique is used. Original, primary, and secondary sources are used. Administrative development, early use, and current practices are studied. Recommendations are given. Some observations are: Continuous redefinition of A V education is needed, most programs are faculty-oriented, aggressive leadership is needed, and no barriers should be present at the instructional or learning levels.

Graham, Robert James, *The Impact of Title II of the Elementary and Secondary Education Act of 1965 on Selected Michigan High Schools.* The University of Michigan. 1969. 31/2412.

The extent of use of the instructional materials centers was studied. Eighty-six per cent of teachers increased their use of these materials. Forty-two per cent shifted from using books alone to including A V. Students' use and their study habits changed. Audio tape recordings werethe most frequently used material.

Gray, Robert Alexander, *Factors Influencing High School Principals' Attitudes Toward Educational Media.* University of Virginia. 1971. 32/4326.

Media directors suggested possible factors in principals' attitudes toward media. A list of 25 factors was sent to principals. Three factors were significantly related: frequency of use of media, frequency of equipment breakdown, and effectiveness of media programs. Total variance accounted for was about .38, so this list had rather low predictive value.

Green, Leroy Adelbert, *Case Studies of Key Educational Media Administration Problems.* University of Northern Colorado. 1970. 31/6451.

Key problems were identified and formed into case studies for instructional purposes. Sixteen problems were developed into case studies. Nine problems were identified as chief problems; they were either related to money or to communications. Many problems are due to inadequate preparation and experience of the media specialists. Failure to communicate goals, policies, and programs to their publics caused problems.

Hammond, David Lee, *A Study of Dynamic Visual Acuity and Motor Skill Relationships Using Certain Projected Media.* University of Southern California. 1970. 31/561.

One hundred and forty-one students' baseball batting skills were tested. Training was motion picture visual training, tachistoscopic visual training, both together, and each with and without batting practice. Visual training of this type did not produce worthwhile gains in motor skills. Visual tests did show improvement.

Hardaway, Gaius Norwood. *The Administration and Utilization of Audiovisual Media in the Public Elementary and Secondary Schools in Bossier Parish, Louisiana.* The University of Mississippi. 1969. 30/951.

Separate questionnaires were sent to 23 principals and 762 teachers. School administrators had very little training in A V. Over 90% of teachers desired more in-service training; media was their greatest interest. Seventy per cent use more media now, and 90% stated media improved the quality of teaching. Deterrents are inability to operate equipment, lack of support materials, and classrooms inadequate for utilization.

Hardman, Robert Richard, *Philosophy of Role and Identification of Critical Tasks Performed by Educational Media Specialists in Elementary and Secondary Schools in Iowa.* Indiana University. 1971. 32/4285.

A questionnaire with 199 statements of basic beliefs was sent to media specialists. Results show the belief that media should facilitate the learning process, all media should have equal status, and students should not only receive data from many media, but also should be able to communicate using many media. The media specialist is a manager, a curriculum specialist, a consultant, and a teacher. Most important tasks were utilization, consultation, and administration.

Heller, Marvin Otto, *An Analysis of the Achievement Gains of Students Who Have Access to an Abundant Supply of Readily Accessible Audio-Visual Materials and Equipment.* University of Northern Colorado. 1970. 31/2005.

Four junior high schools were studied. Conclusions were that readily accessible audio-visual materials in this study did not make a significant difference in student gains; grade level was not a factor, and students in lower socio-economic groups benefitted more than those in the upper socio-economic group. The author recommends further investigation into the findings on socio-economic differences.

Helser, Bettie Ruthelda, *A Study to Test the Effect of Inserting Short Rest Pauses in a Tape-Slide Presentation as Measured by Student Performance on a Criterion Test Presented in Two Modalities.* University of Colorado. 1971. 32/3788.

One hundred and fifteen high school students were subjects. Inserting pauses during a 20-minute tape-slide program or giving an equal amount of time at the end of the program did not result in a significant difference. A tape-slide criterion test was not warranted for all students. It appears that males respond better than females to a short tape-slide presentation in social studies.

Hofer, Jarrel, *An Iconic Comparison of Photographs and the Live Television Screen in Visual Diagnostic Ability.* University of Illinois at Urbana-Champaign. 1969. 30/2823.

Eighty-nine students in one-year training programs were the subjects. Static and dynamic tests were used. Highly significant differences were obtained between students and technicians, and between the static and dynamic tests. These tests are reliable and valid measures, and visual diagnostic ability is not independent from basic knowledge of electronics.

Holdridge, Robert Elmer, *The Audiovisual Role and Educational Preparation of Audiovisual Building Coordinators in Illinois Public High Schools.* Indiana University. 1969. 30/4307.

Questionnaires were completed by 604 principals and 168 coordinators. There is no uniform job description. Forty per cent of coordinators had no time provided for A V duties. Fourteen per cent were full-time in A V. Twenty-seven per cent had more than six hours of A V course credit; thirty-three per cent had no hours. Those with little time or little training did mainly clerical tasks.

Holliday, Robert Wray, *An Assessment of a Graduate Audio-Visual Course Offered at State University of New York, College at New Paltz.* Columbia University. 1970. 31/3389.

A questionniare to former students in the course showed the possible values of such an introductory course. The course was seen as appropriate, but suggestions for change are given. The author recommends greater use of this kind of action research in order to improve courses in teacher preparation.

Hurley, Winona Elizabeth, *A Multiple-Material and Multiple-Media Approach in a Remedial Reading Program as Compared to a Textbook Oriented Program.* University of Northern Colorado. 1972. 33/956.

The special group had 45-minute periods three times weekly for a year. Training included aural, oral, visual, *and written materials. Results showed the experimental group non-significantly superior in reading and battery performance; boys exceeded the girls. A positive behavioral attitude was observed in this reading program.*

Ingram, Rex Clair, *Perceptions of Elementary Classroom Teachers Concerning Instructional Media and Services Provided by Regional Educational Media Centers.* Iowa State University. 1972. 33/1588.

One thousand and forty-seven questionnaires gave several findings. Teachers of different subject areas see differing characteristics of books, periodicals and films supplied by the centers. Delivery twice weekly would be satisfactory to teachers. A workshop with credit was the preferred means of in-service training.

Jenkins, David Morris, *An Investigation of Teacher Attitudes Toward Educational Media When Related to a Basic Course in Educational Media.* University of Southern Mississippi. 1972. 33/1564.

Completion of a basic course in media was found to be the best means of improving attitude toward media use. Non-significance was found with grade-level taught, sex, age and experience. The basic course in educational media is recommended for all pre-service teachers.

Jordan, Daniel Wayne, *The Effects of Integrating Discussion Sessions with a Self-Instructional Course in Audio-Visual Methods.* The University of Oklahoma. 1972. 33/2220.

Discussion sessions failed to raise grades. Student-led discussions were equally effective for lower levels of learning. Instructor-led discussion sessions had a significant effect if studying abstract and higher level learning objectives. Student-instructor interaction was necessary to keep favorable attitudes and motivation during self-instruction.

Joyner, Orville DeLong, *Social Change and Educational Innovation in a Latin American University: A Case Study of the Use of the New Media in San Carlos University in Guatemala.* University of Pittsburgh. 1969. 31/70.

An IMC was established at the university. The potential of the IMC was not fully realized by its personnel nor the administrators and faculty of the university. At the end of the project, the university chose not to support it. It needed more local value, greater time than two years, and wider planning and policy involvement.

Junkmann, Laverne George, *An Investigation and Comparison of Accelerated Audio-Visual Instruction Versus Lecture Presentations in the United States Air Force Academic Instructor Course.* The Catholic University of America. 1971. 32/4243.

Television was used to present a combination of compress speech and related visual stimuli. The control group had a comparable lecture. As much or more cognitive gain can be achieved with compressed speech and visual information. This is a viable teaching method when savings in time and facilities are important.

Katser, Arthur David, *Activities and Attitudes of Instructional Media Building Coordinators: A Follow-Up to Two Michigan State University Summer Institutes.* Michigan State University. 1969. 30/4857.

A questionnaire went to 194 participants seeking data on 18 activities judged appropriate by the institute leaders. Coordinators and principals strongly agreed with the opinions of the subjects. Subjects felt the institutes had increased their performance level, and that they were more knowledgeable and confident in their administration of a media program.

Ketner, William Don, *Multimedia Individualized Instruction in Teaching Adults New Automated Systems in the United States Army Material Command.* Duke University. 1972. 33/2654.

Methods used were videotape lectures, programmed instruction, texts, practical exercises, and computer-assisted simulations. There were no learning differences between low and high supervised groups. However, low-supervised subjects had significantly better retention. The low-supervised group had a significantly higher non-completion rate.

Kilbride, James Moore, *The Design of Appropriate Response Modes for Author Selected Passages of a Slide-Tape Presentation.* University of Miami. 1972. 33/2766.

Response modes were none, explicit response to half, and response to all 22 passages. Eighty junior college freshmen were tested with social science materials. Findings generally support explicit, appropriate respondin Males were superior in each treatment. Also, there is value in instructional revision.

King, Kenneth Lee, *An Evaluation of Teacher Utilization of Selected Educational Media in Relation to the Level of Sophistication of the Educational Media Program in Selected Oklahoma Public Schools.* The University of Oklahoma. 1969. 30/2883.

A survey was conducted, using available instruments. School media programs were more effective when the administration and faculty were committed to media use. Physical facilities limited use of media. Inadequate staffing was common. Larger school systems were better equipped, and more likely to provide in-service training. ETV opportunities were found to be inadequate. A positive relationship exists between well-established media programs and teacher utilization.

Kittilson, Bruce Joseph, *School Librarians' and Audio-Visualists' Conceptions of Media Programs: Consensus and Dissensus.* University of Minnesota. 1971. 32/1189.

Attitude-related questions were asked of librarians and audio-visualists. Greatest differences between the two groups were in the areas of attitudes toward integration of AV and library programs, interpretation of personal roles, attitudes toward technical processes, attitudes toward selection, appraisals of various media, attitudes toward media center management, and interpretations of media program functions.

Kolmos, Alfred Soren, *Effects of Instructional Media in Teaching Beginning Statistics.* University of Illinois at Urbana-Champaign. 1970. 31/4600.

The program is 35mm slides and taped presentations of 20 one-half hour lessons. Those receiving instruction in carrels only did significantly poorer than those with a 30 minute lab, or those with classroom instruction also, or the traditional teaching. Merely adding the slides to traditional teaching made no difference. The programmed materials can minimize teacher supervision time.

Lacock, Donald Wayne, *The Media Specialist and Tasks Related to the Design, Production and Utilization of Instructional Materials.* The University of Nebraska-Lincoln. 1971. 32/703.

A survey of schools with ongoing media programs was used. Media administrators disagreed with teachers on the media specialist's need to know how to produce material. Eighteen per cent of media people said yes, 49% of teachers said yes. Teachers saw the media specialist as an important and integral part of the instructional program. On process concepts, such as design and development of instruction, teachers and media supervisors agreed closely. The media specialist needs to know how his teachers view his role.

Lambert, Clio Wesley, *Evaluation of the Educational Media Program in Selected Colleges and Universities in Florida.* The University of Florida. 1970. 31/3295.

A questionnaire was sent to 15 schools. Overall, the schools rated their program at the median. Tax-supported schools had the best programs, church-related schools next, other private schools last. Commitment was above the median, but institutional implementation was below the median level. Efforts were limited or minimal in in-service education, local production, staffing, and curriculum involvement.

Lambert, Edmund Baker, *Some Effects of Concentrated Media on Selected Students at the Brookside Elementary School in Springville, Utah.* Brigham Young University. 1971. 32/2959.

There was found to be no statistically significant gain in achievement. Also, the experimental teachers had no statistically significant change in their positive attitude towards the use of the media. However, the students using the media did find a significant difference in their knowledge of the media and its use and operation.

Langstaff, Anne Louise, *Development and Evaluation of an Auto-Instructional Media Package for Teacher Education.* University of Southern California. 1972. 33/1566.

Six programmed and slide-tape sequences were developed to promote change in teacher behavior in the classroom. The program resulted in learning gains by both preservice and inservice teachers. There was found to be greater relevance for teachers with classroom experience. Behaviors improved were: creating an effective learning environment, managing learner behavior, and sequencing instructional materials.

Larsen, John Anderson, *The Role of the Media Specialist as Perceived by Himself and His Administrator in the Secondary Schools of Utah.* University of Utah. 1971. 32/1230.

A survey was made of all the media specialists in Utah. Role perceptions were analyzed. Media specialists and principals perceived themselves more idiographic than nomothetic. Media specialists performed at a nomothetic level more than an idiographic level. They were more print-oriented than non-print-oriented. They did not have adequate time allowed them. With greater time, space, and funding, they would be more idiographic.

Lasher, Edward B., *Educational Media Attitudes of and Competencies for Elementary Teachers.* The University of North Dakota. 1971. 32/6837.

A questionnaire and a checklist from 181 teachers found a relationship between amount of experience and two attitude factors, and between sex and one attitude factor. Most relevant competencies were equipment operation, methods in using film and filmstrips, and using overheads. Use was related to availability. New teachers had more positive attitudes toward media use.

Lavin, Marvin H., *The Relative Effectiveness of Three Types of Notes Used as Adjunct Study Activities to Group Audio-Visual Instruction.* The University of Iowa. 1971. 32/5040.

Three related experiments were performed. One showed that notetaking with a printed topic outline led to higher scores than notetaking on plain paper. A-V lessons were used. The other experiments used film presentations. Notetaking using topic outlines and study guides was superior to plain paper notes. All three were superior to learning by viewing the films without aids.

Lavin, Midred Hanzel, *Facilitative Effects of Mathemagenic Narration in Audiotape-Slide Programs in Pathology.* The University of Iowa. 1971. 32/5108.

The mathemagenic program had questions and pauses for covert response; a control group had didactic training. Audiotape and slides were used. The experimental group were superior in both original learning and the transfer task observed. Faculty and students accepted the mathemagenic method.

Lawrence, Herbert Hall, *The Development of a Model Media Course for the Professional Preparation of Elementary and Secondary Teachers in Arkansas.* The University of Arkansas. 1969. 30/521.

The questions were: what content should be in a basic media course, and should the course be required in Arkansas. Data came from catalogs, laws, a questionniare and two opinionnaires. Less than 10% of colleges require the course, and no state requires the course. Nearly all the teachers felt it should be a required course. Twenty competencies are rated as basic.

Lembo, Diana Louise, *A History of the Growth and Development of the Department of Audio-Visual Instruction of the National Education Association from 1923 to 1968.* New York University. 1970. 31/3310.

Historical and case study methods were used. Major contributions were found to be its forum for ideas, its status in the NEA, the conventions and other programs, legislative work, research, publications, cooperation with groups, and public relations.

Linck, Norman, *A Study to Identify and to Analyze the Characteristics of School Educational Media Facilities, Devices, and Materials Available to Students When They are Studying Independently.* Temple University. 1970. 32/2309.

A survey of principals of secondary schools led to these conclusions: The library and librarian are depended on most frequently to provide materials and services for independent study. Media facilities of most schools are inadequate in size, materials, and accessibility. Students doing independent study make wide use of AV. New, sophisticated technological devices are little used.

Longsdorf, Homer Howard, *The Development and Testing of a Slide-Audio Tape Program Designed to Teach the Use of the ERIC System of Information Retrieval.* Michigan State University. 1971. 32/7146.

The program had 61 slides. Presentations were printed versions of the script; slides and 17-minute audio, and slides plus 12-minute compressed-speech audio. The two groups receiving slides plus audio tape were significantly superior in task completion rates.

Lyon, Edward Ellsworth, *The Teaching of a College Level Physical Geography-Earth Science Course by an Audio-Visual-Tutorial Independent Study Method: An Evaluation.* The Ohio State University. 1972. 33/1591.

Each student had at least two hours weekly of use of a carrel with equipment. Students did learn content at satisfactory levels in all measures. Interviews with 30 students determined that they generally liked this method of learning, especially self-responsibility, self-pacing, and the variety of activities.

McCain, Charles Roland, *An Experiment in the Sequencing of Mediated Instructional Materials Based on Learning Hierarchies.* East Texas State University. 1971. 32/5614.

One hundred and twenty-three subjects were presented material in three sequences—logical, random, and reversed. Audio tape and slides were used. The logical group as a whole group, the logical, low ability, and the logical, high ability groups were significantly superior.

Macaluso, Michael Daniel, *A Study to Identify the Need for, Functions, and Competencies of a Media Professional in Industry.* Temple University. 1972. 33/1478.

A questionnaire showed an increasing need for media personnel in industry. Media training programs should keep this field before their students as an option. Psychology-sociology and communications is more important training than business-economics. Several specific types of industry are listed.

McCullough, Jack R., *Communication in the Classroom Through Multi-Media.* United States International University. 1972. 32/5535.

Subjects were teachers chosen for their antipathy to multi-media use. A ten-session program began with group dynamics work with attitudes. The program was concluded to be a successful one, with some permanent attitude change toward multi-media found.

McFetridge, John Douglas, *An Investigation of Student Use of Multi-Media in Their Response to Poetry.* University of Alberta (Canada). 1972.

No abstract available.

Majer, Kenneth Stanley, *A Study of Computer Assisted Multimedia Instruction Augmented by Recitation Sessions.* The Florida State University. 1969. 30/3641.

The course used was introductory physics. The study explored combinations of CAI and media. Multiple regression analysis showed that personality, ability, and background characteristics differentially predict performance.

Maxwell, Cyril Archie, *A Study of the Knowledge, Skills, and Proficiencies Required of the Instructional Media Technologist.* Texas A&M University. 1972. 33/1081.

This para-professional position was studied by a questionnaire. Teachers recognized the need for such a position in the schools. A two-year curriculum with six levels was developed for the training of media technologists.

Meyers, Jon Richard, *A Study of Eye Movements and Fixations in a Multi-Image Presentation.* The University of Wisconsin. 1972. 32/6688.

Subjects were individually viewed, with eye movements and visual field recorded on videotape; a second camera recorded the screen being watched. There was a similarity of back and forth elementary eye movements. There was a strong tendency to turn to the new image; if more than one was new, the larger one was usually turned to. As the complexity of image increased, so did per cent of viewing time used and number of fixations. Subjects preferred a large image over smaller ones. The more subjects saw variations of the same image which reappeared, the less they bothered to look at it.

Meyers, Richard Stuart, *The Community College Instructional Media Center—A Theoretical Paradigm of Operation.* University of Southern California. 1971. 32/3727.

Questionnaires, visitations, and interview were used in California. Conclusions included the lack of literature relating to a theoretical model, gaps between theory and actual field practice, that many schools lacked media services, that the great majority of media center directors were not administrators, and that there is a lack of authority to match the level of responsibility.

Millard, William L., *Utilization of Multimedia Classroom Facilities in Colleges and Universities in the United States.* Syracuse University. 1970. 32/4378.

Extensive surveys, visits, and questionnaires found that the presence of sophisticated multimedia classrooms does not appear to produce dramatic changes in instructors' teaching behavior. Reasons include recency of such facilities, limited faculty time, inadequate funding for development of mediated programs, and limited assessment of outcomes. Considerable promise is seen for the future.

Mitchell, James Ennis, *The Effect of a Multi-Media Inservice Program for Individualizing Instruction on Teachers From Three Junior High Schools in Robbinsdale, Minnesota.* University of South Dakota. 1972. 33/2803.

The experimental group had significant change in attitudes toward individualizing instruction and the learning of skills relating to concepts of this. Eight of the 23 subjects made teaching method changes, implementing behavioral objectives, learning packages and audio tutorial units. Media can be used as a motivator in inservice training.

Motley, Drucilla: see Computer

Murphy, Francis J., *The Development and Refinement of a Multi-Media Micro-Lab Model Curriculum for Junior High School Teachers of Religion.* The Catholic University of America. 1971. 32/1964.

Teacher training is seen as a hope for the crisis in religious education. This developmental research made a model curriculum for training in communication with youths, refined and modified it, then presented a 10-unit training program. The focus was facilitation of the learning environment, process-centeredness, values clarification, and multi-media environmental learning.

Myers, Alpha Blanche Scoggin, *The Relationship Between Innovation in Curriculum and Instruction and Certain Characteristics of Media Centers in Public High Schools.* Rutgers University The State University of New Jersey. 1972. 33/1420.

Twenty-six schools were surveyed. Correlations found were between number of AV specialists and extent of innovative practices and between type of school and various staffing and materials expenditures. Per pupil support averaged $4.08 for print and $2.09 for nonprint materials. Media center staff averaged one per 670 pupils, AV staff 1 to 1,285. Collections averaged eight books and three nonprint materials per pupil.

Nalty, Damon Gene, *Mediated Independent Study Facilities in Four-Year Institutions of Higher Education in California.* University of Southern California. 1972. 33/1462.

Seventeen institutions were studied by interview and observation. Two-thirds had facilities for mediated independent study. Audio and 35mm were the most common types. In most cases the instructor decided to make the program, and made some of the software. Nearly all interviewed saw an increase in this type of facility in the past five years and saw it likely to continue increasing.

Nelson, Harold Neil, *Training Audio-Visual Administrators in Participative Management.* Indiana University. 1971. 32/1236.

Training included five two-hour sessions. Subordinates and associates were given a questionnaire, and subjects did a one-year followup questionnaire. There were no significant differences in the direction predicted. Subordinates and associates described actual behavior as having more freedom than structure, but would prefer the reverse in an ideal situation; subordinates saw more structure than consideration; associates saw more consideration than structure.

Nestel, Gerald Ernst, *A Feasibility Study for an Audio-Visual Media Maintenance/Service Technician Curriculum.* University of Arkansas. 1970. 31/1145.

Information was obtained from DAVI members in state universities, Nation Audio-Visual Association members, and superintendents. Subject areas for a curriculum were found. Most media service men learned on the job. Trained technicians would probably find employment in school districts. Some industrial and sales positions would also be available to them. A two-year post-high school program is recommended. Teachers for this program need to be trained.

Nielsen, Thomas Grier, *Media Presentations and Iconic and Symbolic Modes in Independent Learning.* University of Southern California. 1970. 31/3422.

Filmstrips with audio, or with a printed booklet were used with nine and eleven year olds. Conclusions were that when a verbal test is the measure, the Iconic mode appears better for nine year olds and that the printed booklet was better than audio for presenting the verbal content.

Nixon, Lester Douglas, *A Study of the Director of Audio-Visual Services in Public Schools.* University of Wyoming. 1970.

No abstract available.

Norsted, Leroy Vernon, *Personality Factors of Teachers and the Acceptance of Audio-Visual Instructional Media Relative to Classroom Instruction.* University of Minnesota. 1970. 31/2018.

Four hundred and three teachers took the Sixteen Personality Factor test and the Audio-Visual Utilization questionnaire. Results show high utilization relates to being an elementary teacher who is adaptable, open, but who tends to be group-dependent. The self-sufficient, aggressive teacher does not rate high on AV usage. AV utilization is more dependent on school conditions than on recency of formal teacher training.

Paschall, Jack Wiley, *The Comparative Effectiveness of Two Instructional Systems for Teaching the Course 'Audiovisual Materials in Teaching.'* The University of Oklahoma. 1970. 31/3181.

Eighty-seven students received self-instruction or traditional instruction during a semester. Students can learn as well with self-instruction; length of session was not significant. Student attitude was favorable. Each group thought their mode of instruction was the best.

Perry, Thomas Kent, *The Effects Upon the Learner of a Compressed Slide-Audio Tape Presentation Experienced in a Learning Carrel as Measured by Recall and Application Tests.* Michigan State University. 1970. 31/4019.

Three college groups were used: one had compressed speech, one had normal speech, and one was a control group. One thousand, seven hundred and twenty-three words and 27 slides were used. Rates were 150 wpm and 250 wpm. Both treatment groups were significantly higher, and were not different from each other.

Petersen, Frederick William, *The Development of Evaluative Criteria for the Services Provided Local School Districts by the Area Media Center.* The University of Nebraska-Lincoln. 1969. 30/3696.

Media center directors were interviewed. Thirty-three criteria for evaluation were selected to be used in a questionnaire. The instrument was useful to evaluators. Area media centers supplement but do not supplant local media efforts. The criteria adequately described media center activities.

Purtzer, Wayne Ralph, *A Comparative Effectiveness Study of a Mediated Teaching System Used for Fostering Media Skills in the Preparation of Teachers.* The University of Nebraska-Lincoln. 1971. 32/2318.

Mediated instruction was compared with large-group and small-group class instruction. The task of operating three differing pieces of AV equipment was measured. The study found no significant difference; however, a greatly increased sample showed later that mediated instruction was more economical. Results showed that it is economically feasible with at least equal learning to use the mediated instruction program.

Rago, U. Frank, *Inservice Education in Instructional Media for Classroom Teachers, (Parts I and II).* New York University 1972. 33/1572.

Seven modules were produced. Teachers need to be involved in planning inservice programs. They seem to prefer local production of short units; "hands-on" training is valuable. Administrative cooperation is vital. Careful inventory of the materials available in a district is needed.

Ramquist, Raymond Carl, *Job Requirements for Media Technicians and Guidelines for Training Programs.* Indiana University. 1971. 32/2921.

Using a sample of 117 media specialists with an interview form and a mailed questionnaire, data was gathered on six different types of technicians. The objective was to try to determine the qualifications for a media technician and the guidelines for their training. It was found that the general technician was the most desired of the six types and the skills needed in all six types were enumerated. The common education needed by all six types was also discussed.

Reck, Lawrence Raymond, *A Combined Library Science-Audiovisual Education Training Program for the University of New Mexico.* The University of New Mexico. 1970. 31/5153.

A program was developed, based on response to questionnaires sent to educational officials at all levels in New Mexico, and colleges with similar programs. Cultural minorities' needs were given special attention. A Masters program and a Specialist program were designed.

Rees, David John, *A Study of the Cooperative Efforts of School Districts in Certain States in Sharing Media Resources Through Regional Instructional Media Centers During the 1966-1967 School Year.* Syracuse University. 1970. 31/5857.

Six types of regional service units are considered. Five operational functions are explored. Questionnaires provided data. Conclusions are: state leadership is important at first, after establishment the local districts are the key agencies, states with dense population, state policy and funding have best success, and the distributive function is most common, with others being production, training and consultation. Recommendations are given.

Rees, Robert Lloyd, *Educational Media in Higher Education: A Guide for Educational Administrators.* University of Kentucky. 1970. 31/3839.

An 11-step theoretical model was made for decision-making in the university to yield satisfying decisions on the use of media. It is a heuristic model. The model goes from identification of a problem to implementing a media system, then re-evaluating it.

Richardson, William Martin, *The Design of a Planning Model to Assist a Large Suburban Public School System to Systematically Consider the Use of Selected Components of Educational Technology.* The Catholic University of America. 1970. 31/2264.

The model has four stages—research, development, adoption, and implementation. The last two are the prime responsibility of the local school system. Each are broken down into several steps. A survey of organizational responsibility showed no agreement on placement of responsibility for the steps in achieving adoption and implementation.

Richison, Tom Zelph, *A Study of Audio-Visual (Media) Among Teacher Preparation Colleges and Universities in Arkansas, Kansas, Missouri, and Oklahoma.* The University of Tulsa. 1972. 33/653.

Over ½ of the 97 schools felt a need to provide AV training. Interest in teaching AV is growing. There is not a wide range of offerings in AV. Two of the states require media training. Colleges see the importance of media training, even if the schools fail to provide training in it.

Ricker, Elizabeth Ann, *Media-English in Secondary Schools.* Harvard University. 1971.

No abstract available.

Ritter, Donald Earl, *The Effectiveness of Selected Multi-Media Workshops on Teacher Instructional Practices.* Indiana University. 1971. 32/288.

Five workshops had emphasis on multi-media utilization through state-wide TV. After the workshops, over 2/3 used ETV more, over ¾ used other media more, and other teachers in their schools did not increase media use. These workshops effected a non-significant positive change in attitudes toward media use.

Rood, Clair Lavern, *A Study of Selected Newer Educational Media Variables as Compared to Upper Elementary Student Standardized Achievement Scores.* Michigan State University. 1971. 32/1367.

Field research was conducted with New Educational Media (NEM). Seven variables were isolated and studied. Teacher training, and availability of hardware were found to correlate with composite grade equivalent scores. Not significant were: teacher ability and attitude, administrative attitude, availability of software, and administrative financial support. There is a very strong need for this type of research into environmental factors on learning.

Rosenthal, Jules M., *A Multi-Media System for Use in the Simulation of an Inner-City Elementary School Principalship.* The University of Wisconsin. 1971. 32/1240.

The materials were developed in this study. Methods of implementation included both an optimal use program and a field use program where parts of the materials could not feasibly be used. Limitations of space, equipment, and personnel were considered in both situations.

Rowen, Milton Stanley, *The Identification of Educational Media Retrieval Technical Staff Members in Relation to Position Analysis, Duties and Responsibilities.* University of California, Los Angeles. 1969. 30/3255.

A retrieval system linking a central studio with classrooms and individual carrels is studied. Personnel needs and coordination with the school system's goals are the main problems analyzed. Readings, interviews, and visitations identified 15 basic positions necessary to technically operate and maintain the system. Duties and responsibilities were developed.

Samuels, Melvin Harold, *A Comparison of Roles and Functions Desired by Prospective Employers of Professional Media Personnel with Current Professional Media Preparation Programs in Pennsylvania.* University of Pittsburgh. 1971. 32/6016.

Questionnaires were used; chief school administrators, college deans, and degree candidates (those seeking certification in educational media) were surveyed. Competencies and skills sought by employers were consistent with roles identified for the media personnel. Candidates tended to identify a larger number of essential competencies than the others, and they stressed production more than the others. Colleges were not preparing personnel to meet the needs of employers.

Sanner, Richard Lee, *An Evaluation of the Educational Media Programs of the California State Colleges.* Arizona State University. 1971. 32/143.

An opinionnaire was sent to sampled faculty. The returns were statistically analyzed. The instrument was found to be valid and reliable. Relative adequacies in 32 categories were identified. A major recommendation is that greater effort should be made to inform the faculty of their local media programs.

Sheppard, George K., *The Effects of an Audio-Visual Presentation on Fifth Graders' Attitudes Toward American Indians.* Utah State University. 1971. 32/4334.

Some subjects lived near an Indian community, some did not. Four A V presentations showed Indians in situations requiring skills and commitment. No significant differences were found in the study.

Slagle, Phillip Jay, *A Proposal for the Establishment and Operation of Regional Media Centers for the State of South Dakota.* University of South Dakota. 1971. 32/2377.

Interviews and visits to regional media centers showed the feasibility of the concept. Recommendations were for South Dakota to establish four centers (these centers should have authority for tax levy), the State Department of Public Instruction should help fund and support the centers, and there should be continuing study of the concept and its implementation.

Sparks, Ronald James, *A Pilot Study of the Suitability of an Individualized Audio-Visual Program in the Continuing Education of School Administrators.* University of Southern California. 1970. 31/2665.

This studied the suitability of a communication system, using an individualized, programmed, audio-visual medium for getting the journals and research information to the busy school administrator. It did this by surveying the audience for what they desired, producing two such programs, and then distributing them for judgment by the administrator. Twenty-eight Los Angeles supervisors were used. Among the many conclusions were that the sample used did profit, they found the programs useful and not difficult to follow and that it kept their attention. It seemed to be commercially feasible on a wide-distribution level.

Sprague, David Michael, *An Empirical Investigation of the Relationship Between Media Preference and Learner Performance.* The Florida State University. 1972. 33/2624.

The students who received the medium they chose performed better on nearly every measure. Also, it was found that the teacher can design lessons which lead nearly all students to mastery level. Different media did not lead to greater achievement.

Stamm, Wayne Allen, *A Study of Selected Environmental Factors in the Administration of an Audiovisual Program.* The University of Wisconsin. 1970. 31/6323.

Teachers' perceptions of elements in A V programs were obtained. Supportiveness is seen in buildings that are designed for A V facilitation. Convenience of use, presence of an A V director, and administrator support of A V were significant. Teacher self-confidence in using A V correlated positively with formal A V training and with seeing less thwarting elements in the A V program.

Stephens, Robert Eugene, *Factors in Media Utilization in Higher Education.* University of Southern California. 1971. 32/3577.

One hundred and thirty-eight deans, 390 faculty, and 150 media personnel were used for this study in an attempt to find the deterrents to the use of educational media in higher education, how to alleviate them and characteristics of the above named participants. Among the findings were which people and which types of institutions used the materials the most, which people found the greatest deterrents, and that there was a positive correlation between media utilization and attitudes towards instructional technology and between media utilization and perception of major deterents. Major deterrents were listed and also *recommendations were given.*

Stiehl, Ruth Eleanor, *Self-Instruction in Graphic Media Production: A Comparison of the Relative Effectiveness of Learning Graphic Production Skills by a Self-Instructional System as Contrasted With Group Instruction.* University of Idaho. 1972. 33/2247.

Half a semester's work was put into four weeks. There was no significant difference between groups in information gain and time needed to complete work. The teacher took more than twice as much time with the conventional method; most teacher time was individualized with the experimental group.

Taylor, Gary Royal, *A Comparative Evaluation of Teaching Effectiveness and Efficiency for Three Presentation Modes—Programed Multimedia for Groups, Programed Textbook, and Multimedia Lecture-Discussion—as Adapted from an Original Unit of Instruction.* Brigham Young University. 1969. 30/3843.

The subject used was the development of the English alphabet. The programed multimedia mode was significantly more effective. The programed textbook was the most efficient. Nontransitory learning, in order to be both effective and efficient, should use both programing and multimedia techniques in group settings.

Teeter, Thomas Allen, *An Evaluation of the Secondary School Media Programs of the Little Rock School District of Pulaski County, Arkansas.* The University of Mississippi. 1971. 32/3579.

Questionnaires showed these findings. Media staffs most felt the lack of staffing and inadequate training in use, production, and administration. Media programs were least adequate in production and inservice training. Staffs spent more than 39% of their time organizing materials for use. Book needs of users were met, but AV needs were not well met. Budgeting of centers was inadequate.

Thatcher, Dwain Leroy, *A Comparative Study of Conventional, Tape-Slide-Worksheet and Modified Tape-Slide-Worksheet Instruction in Junior College Developmental Mathematics.* Brigham Young University. 1972. 33/2625.

Eighty-two subjects were in nine classes. There was not significantly different learning. The tape-slide-worksheet group completed faster. The teacher variable was important. The method used needs to conform to teacher preferences.

Thoreson, LaVerne Dennis, *An Experimental Study to Determine the Validity of Individualized Large-Group Multi-Media Instruction Compared with Traditional Instruction in First-Year Typewriting.* The University of North Dakota. 1971. 33/227.

Four hundred and ninety-six were in the experimental group and 802 studied by conventional methods. The multi-media group typed faster, made more errors on straight-copy timings but fewer errors on production timings. There is a direct relationship between GPA and ability level and the speed of typing skill. Females are faster typists.

Trowbridge, Virginia Cox, *The Development of Guidelines to be Used by Day Care Centers Desirous of Utilizing the Process of Educational Technology in the Selection and Use of Mediated Materials in Instruction.* The Catholic University of America. 1971. 32/1993.

Centers found to be using mediated materials were visited. Early childhood centers visited were using all elements of the developed model, and reported measurab learning. District day care centers were not using all elements, and had no measurable data on learning. Guidelines and a checklist were developed to assist centers in selecting and using mediated materials.

Urbish, Millie Mae, *Development and Evaluation of Multimedia Instruction on Due Process of Law for Sixth-Grade Children.* University of Maryland. 1971. 32/1202.

A 20-minute dramatization of a case was followed by an audio-tape with 196 slides. This was effective for non-target schools, but less effective with target schools (25% or more from low-income families). All IQ levels learned from the program.

Van Dreser, Roy Jerome, *A Survey Related to Job Competencies of the Instructional Media Specialist.* The University of Nebraska-Lincoln. 1971. 32/681.

A questionnaire was sent to administrators and to IMC directors. Recommendations include: recognition of the importance of communications and interpersonal relations with their publics; prior teaching experience; media training programs should be inter-disciplinary; curriculum studied should include administration, utilization, instructional design, curriculum, learning theory, systems development, communication, materials selection, behavioral objectives, production.

Van Orden, Phyllis Jeanne, *Use of Media and the Media Center, as Reflected in Professional Journals for Elementary School Teachers.* Wayne State University. 1970. 32/293.

A sample of 222 articles was studied. Grade Teacher *and* Instructor *had the most information on media and media centers. General journals had more articles than did association journals. Books, projected materials, visual materials and 3-D materials were mentioned most often. Most articles were aimed at the general aspects of teaching, not specific subject areas.*

Volker, Roger Paul, *Development of a Multimedia System for Teaching High School Biology.* Iowa State University. 1970. 31/4051.

Six class sections each used conventional instruction or programmed instruction, small group audio-tutorial lab, or small group discussion. Results showed the multimedia system can be superior to traditional methods for gains in achievement and in attitude toward expectation and method. Personality measures showed little relationship to the type of instruction.

Wali, Abdul Jabbar Towfiq, *Adult Education in Iraq: A Comparative Study of the Verbal Method and Audio-Visual Techniques in the Learning Process.* University of California, Los Angeles. 1970. 31/1001.

Efforts were made to improve teaching method and content to lower the dropout rate. Broadcast TV and other media were involved. Interviews and questionnaires showed learners had no special choice of method, but teachers highly favored audio-visual teaching. Teachers and learners favored literacy combined with vocational teaching. The current program is seen as highly important.

Williams, Joe Brooks, *The Effectiveness of Automated-Multimedia for Inservice Training of County Extension Agents.* University of Kentucky. 1971. 32/1834.

Two days of training used either lecture-multimedia or automated-multimedia, using audiotape. Automated-multimedia is equal to or more efficient as a teaching method. The freeing of the instructor by this method has a great advantage, outweighing the cost of extra equipment.

Williams, Richard Tuttle, *An Assessment of Regional Media Centers in Texas.* The University of Texas at Austin. 1971. 32/6116.

A process evaluation and a user survey were used. Findings include these: users thought, except for 16 mm, more service should exist; teachers and superintendents tended to agree, except for delivery and dissemination service, on perceptions of service; and superintendents and center directors agreed on what should exist and what does exist.

Wilson, Lavisa Katherine, *A Study of the Effectiveness of a Self-Instructional Multi-Media Inservice Training Program for Day Care Center Teacher Aides.* The University of Iowa. 1972. 33/1578.

A 10-session program was developed, each about eight minutes of slides and audio cassette. The experimental group did gain significantly in child development knowledge. Age, experience, and parenthood were not significant variables.

Wisely, Forrest Gale, *An Investigation of the Influence of Cognitive Learning of the Arrangement and Type of Review Used in Instructional Media.* University of Southern California. 1972. 33/562.

Four color, sound filmstrips were used to present the subjects with review of the information by either spaced or massed at the end; review was either identical to the presentation, or new material. The only significant difference was in favor of spaced review, which increased the cognitive learning of the intermediate children.

Wohl, Louis S., *A Language Arts Teaching Program Utilizing a Multi-Media Strategy for Secondary School Instruction of Literature.* Hofstra University. 1972. 33/2700.

A theoretical model was developed to teach the subject matter, language arts skills, and to advance the development of behavior modification and adaptibility to life. Models of two literary works have lesson units using multi-media. Tests and extension activities are included.

Yarbro, Richard C., *An Investigation of the Audiovisual Programs in the Secondary Public Schools of West Tennessee.* Memphis State University. 1970. 31/4398.

Questionnaires from 56 schools of over 250 pupils were analyzed. These schools are not meeting the recommendations from national standards. Major lacks are finance, space, teacher training and staff. Strengths are teacher and student interest in AV use, and quantity of equipment available. Greater effort in training, planning and evaluation are needed.

Zellweger, Andres Guido, *An Investigation of Some Critical Factors in Educational Technology.* Harvard University. 1971.

No abstract available.

Zikmund, Dale George, *A Pilot Study to Evaluate the Effect of Mediated Occupational Information on the Aspirations, Understandings, and Attitudes of Eighth-Grade Students.* The University of Nebraska-Lincoln. 1971. 32/3045.

This study compared the effectiveness of occupational information using 35mm slides and audiotapes compared to traditional methods. It used 279 eighth graders and studied 100 occupations. It was found that there was no difference on knowledge and aspirations but their attitudes were better when the combination of media and teachers was used, rather than either of them alone. The students had a favorable attitude towards the program, however, they did indicate that they would prefer to learn by talking directly to someone in that occupation.

COMPUTERS IN INSTRUCTION

Abboud, Victorine Constantin, *A Computer-Assisted Instruction Program in the Arabic Writing System.* The University of Texas at Austin. 1970. 31/4028. *

This discusses the development of this CAI program which was found to reduce learning time substantially because of the rapid feedback and its individualized qualities. This was the first such program developed for any Semitic script.

Ahn, Chang-Yil, *Development of a Computer-Assisted Instructional System on the Use of the Dictionary of Occupational Titles.* The Ohio State University. 1971. 32/3678.

A two-hour lesson for counselor trainees was devised. Evidence showed this was an effective way of teaching how to use the Dictionary. Recommendations were given for improvement of the program.

Barnes, Ospy Dennis, *The Effect of Learner Controlled Computer-Assisted Instruction on Performance in Multiplication Skills.* The University of Southern California. 1970. 31/4538.

Sixty-six subjects ranged from fourth to eight grades. No significant differences were found among the experimental groups. It was concluded that the learner must be ready to assume control of learning, the material must be meaningful and relevant to the student's needs, the learner must have motivation.

Besterfield, Dale Hamlyn, *The Effect of Social Reinforcement as a Feedback Condition in Computer-Assisted Instruction.* Southern Illinois University. 1971. 32/4234.

Four types of reinforcement were given to college students. There was no significant difference in performance nor attitude among the four groups. High correlation was found between error rate and test time, between attitude and test score, and between attitude and error rate. There was no correlation between attitude and ability.

Borman, Karl Ganser, *The Development and Evaluation of a Model for the Teaching of Beginning Shorthand Through the Use of Computer-Assisted Instruction.* The Pennsylvania State University. 1971. 32/6181.

A model was formulated, through the use of various learning theories and the pertinent literature, for the teaching of beginning shorthand through CAI. It made use of the "interception" method whereby if the response was not made in a certain amount of time it was "intercepted" and the correct answer given, on the supposition that prevention of errors increases the efficiency of the learning process. It was not found to have any real retention value, however, and was more time-consuming.

Brod, Rodney Lynn, *The Computer as an Authority Figure: Some Effects of CAI on Student Perception of Teacher Authority.* Stanford University. 1972. 33/139.

One hundred and fifty junior high students took questionnaires five months apart. Findings show students develop reduced dependence on the teacher's task-specific resources and power. Particularly with the first-year CAI students, the computer undermines this aspect of teacher authority. Second and third-year CAI students, however, more favorably reflect some of the program's anticipated functions.

Brown, Kenneth Gordon, *The Relation Between Intelligence and Achievement Using Computer-Assisted Instruction.* The University of Alberta (Canada). 1970.

No abstract available.

Carlson, Frederic Roy, Jr., *A Design Process for Computer-Based Instructional Systems.* University of Southern California. 1970. 31/3406.

This design process is derived from the educational systems approach and the engineering process of design. It is an eight-step morphological process relating the educational need to the statement of the problem, and the problem statement to the CBI system design.

Carruth, Edwin Ronald, *A Multiple Linear Regression Analysis of Computer-Assisted Elementary Arithmetic Achievement.* University of Southern Mississippi. 1970. 31/5691.

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Fourth through sixth graders were subjects. Variance in achievement included this data—most important effect came from prior level of arithmetic achievement, intelligence, and reading ability. Race of pupil, school attended, grade level had little direct effect. Sex, pre-post test experience, CAI experience had no important effect. Pupil knowledge of arithmetic applications and his IQ were the best predictors, accounting for 65% of the variance.

Caruso, Dorothy Elaine Furnier, *An Experiment to Determine the Effectiveness of an Interactive Tutorial Program, Implemented on the Time Sharing IBM System 360, Model 50, in Teaching a Subject-Oriented User to Formulate Inquiry Statements to a Computerized On-Line Information Retrieval System.* University of Pittsburgh. 1969. 30/3484.
Thirty-seven subjects received computer tutorial training; 50 received the same skills and concepts via classroom-lecture. There was no significant difference in learning. Other measures showed a high rate of success with the computer tutorial program.

Castleberry, Samuel Joseph, *The Development and Evaluation of Computer-Assisted Instruction Programs on Selected Topics in Introductory College Chemistry.* The University of Texas at Austin. 1970. 31/1679.
Eleven tutorial-drill and four experiment simulation modules used CAI. The modules led to acquisition of the behavioral objectives, allowed for a range of individual differences, and had a significant effect on achievement. The CAI modules caused no administrative nor logistical problems that might deter its widespread use.

Chapman, Joseph Warren, *A Determination of the Skills Required of Elementary and Secondary School Teachers in Schools Using Computer-Assisted Instruction.* The American University. 1970. 31/2785.
Unstructured interviews were conducted with persons experienced in CAI. The four hypotheses were confirmed: that no highly developed skill would be required for operation of a terminal; that teachers need only a conceptual knowledge of programming; teachers would need thorough knowledge of the subject taught; that skills required in CAI are different from those in conventional settings.

Cole, William L., *The Evaluation of a One-Semester Senior High School Mathematics Course Designed for Acquiring Basic Mathematical Skills Using Computer-Assisted Instruction.* Wayne State University. 1971. 32/2399.
Results indicated that CAI was effective in improving computational skills in whole numbers, fractions, decima and per cent. Students showed a significant positive change in attitude toward mathematics. Attendance patterns showed no change.

Confer, Ronald William, *The Effect on One Style of Computer Assisted Instruction on the Achievement of Students Who are Repeating General Mathematics.* University of Pittsburgh. 1971. 32/1741.
The findings showed some differences favoring CAI and some favoring conventional approaches. The CAI group had the same dropout rate as the conventional one. Students showed fatigue from long use of terminals. Overall, CAI produced results equivalent to conventional instruction.

Custer, David Duane, *An Approach to Computer-Assisted Instruction for the Aurally Handicapped.* University of Colorado. 1971. 32/1940.
This study designed an interface system and fabricated it. It was tested and modified for successful subject use. Attention span, chronological age and degree of hearing impairment appear as best predictors of success with such equipment.

Dasenbrock, David Henry, *A Comparison of CAI and Non-CAI Student Performance Within Individualized Science Instructional Materials—ISCS (Intermediate Science Curriculum Study)—Grade Seven.* The Florida State University. 1970. 31/4575.
CAI was used as a tool in formative curriculum evaluation. Twenty students used the CAI materials. Results indicated that CAI and non-CAI students performed similarly with the ISCS materials. It seems justifiable to use CAI data to make inferences about non-CAI student performance.

Dodsworth, Donald Jeffries, *How to Develop Effective Promotional Procedures in Adult Education—A Computer-Assisted Instruction Course.* The Ohio State University. 1972. 33/545.
CAI is seen as an instructional method with great potential for adult education. A sub-section of a course on

adult education was prepared for CAI. Nine adult educators gave positive and encouraging response to taking this sub-section. Further work in CAI for adult education seems warranted.

Dunn, Thomas G., *The Effects of Various Review Paradigms on Performance in an Individualized Computer Managed Undergraduate Course.* The Florida State University. 1971. 32/5034.

It was found with health education students that reviews did not significantly facilitate retention. Reviews should be more frequent and thorough, but only given to those who need review help. Those who paced their work did better than those who massed their coursework. Planning reviews similar in format to subsequent tests may lower state anxiety while taking the test.

Durall, Edwin Phillip, *A Feasibility Study: Remediation by Computer Within a Computer-Managed Instruction Course in Junior High School Mathematics.* The Florida State University. 1972. 33/2611.

Computer-remediated students showed equivalent performance, rate of movement, and attitudinal measurements as teacher-remediated students. High-ability students did better with computer remediation than did low-ability students. Computer remediation is not now economically feasible. Lower-ability students used significantly greater amounts of computer time than did high-ability students.

Ellson, Earle Ivers, *Finance and Control of Computer-Assisted instruction in California Public Schools, Kindergarten—Fourteen.* University of Southern California. 1972. 33/1352.

A questionnaire was used for this study which was done in order to determine how aware and prepared California Public Schools are for this media and how available it is presently. It was found that at the present it is available only on a limited basis. Many conclusions were discussed such as the fact that it is very expensive, though the costs are decreasing, so outside financial aid will be necessary and careful planning needs to be done.

Finch, John Melvin, *Teaching-Learning Units in Plan: An Analysis of the Utilization of Instructional Materials to Individualize Learning by Computer-Managed Instruction.* The University of Iowa. 1972. 33/1354.

The most popular teaching-learning units (TLU's) were text only and object-equipment—accounting for 64% of the assignments. Multimedia and tape were fairly popular, but records, filmstrips, and general were seldom used. Language arts stressed texts; mathematics used much object-equipment TLU's; science used many types but used texts and object-equipment extensively; and social science used tapes frequently. Students showed some variation in the use of instructional materials according to their teacher.

Flathman, David Paul, *List Processing Simulation of Computer-Assisted Instruction.* University of Alberta (Canada). 1970.

No abstract available.

Gallagher, Paul D., *An Investigation of Instructional Treatments and Learner Characteristics in a Computer-Managed Instruction Course.* The Florida State University. 1970. 31/4543.

Variables were student sequencing, or computer sequencing; instructor evaluation or student-computer interaction. No significant differences were found. Students that were most successful liked to be active in the learning situation, had lower anxiety, and expressed positive attitudes. The study was considered as valuable in gaining knowledge of CMI.

Gardner, Louis Arthur, *The Relationship Between Psychological Readiness and Achievement on a Computer-Assisted Instructional Program for Science Teacher Education.* The University of Texas at Austin. 1971. 32/5633.

Subjects included thirty-four experienced elementary teachers and twenty-six undergraduate elementary education majors. The "INOBJ" program was used, and was found to be generally successful in the stated purpose of using the computer-assisted instructional program for learning the identification of and use of behavioral objectives. Teaching experience was found to be inversely related to achievement, however, it was found to be related to levels of teacher concern, with those teachers teaching the longest having the highest levels of concern.

Grandey, Robert Clifford, *An Investigation of the Use of Computer-Aided Instruction in Teaching Students How to Solve Selected Multistep General Chemistry Problems.* University of Illinois at Urbana-Champaign. 1970. 31/6430.

Lessons were developed in three aspects of chemistry. Lessons had three styles: instructional sequences, practice problems, and quizzes which forced review of weak areas.

Grossel, Roger Louis, *A Computer-Based Education Approach to Electrical Network Theory: Lesson Development, Use and Evaluation.* University of Illinois at Urbana-Champaign. 1971. 32/5533.

This study used the Plato III system at the University of Illinois, Urbana. Many benefits were found in using the system, including a high degree of student achievement and the development of positive attitudes by the student and the ability of the student to work at his own pace.

Grubb, Ralph Emerson, *A Design Language and System for Computer-Assisted Instruction Programs.* Columbia University. 1972. 33/78.

This study deals with the problems of describing and comparing CAI programs and generating new designs. Instructional design concepts from many fields were used. The results were descriptions in English, in an artificial grammar from graphy theory, and a computer language. The computer language was refined into a metalanguage called Instructional Pattern Language.

Harding, Larry Gladwin, *The Development of a Computer Managed Instructional System (CMI) in Naval Air Technical Training.* The University of Tennessee. 1972. 32/2483.

The study showed a CMI system can be used in the military to reduce training time without lowering achievement or attitudes. Also, careful analysis of course objectives can reduce training time; programmed instruction works with difficult subject matter, self-pacing and incentives aid learning.

Hatfield, Larry Lee, *Computer-Assisted Mathematics: An Investigation of the Effectiveness of the Computer Used as a Tool to Learn Mathematics.* University of Minnesota. 1969. 30/4329.

Seventh-graders were given computer-assisted mathematics for two years. During the first year the only significant difference favored the control group. During the second year three measures favored the computer group. The results particularly support use of the computer with number theory, ability to solve unfamiliar word problems, for performances on problem items, and with high and average achievers.

Hill, Clair S., *Comparative Effectiveness of Two Strategies of Computer-Assisted Instruction for Teaching Orthographic Projection.* University of Missouri-Colombia. 1971. 32/5007.

The two strategies are linear and tutorial strategies. Sixty sixth-graders were subjects. Those instructed by means of tutorial strategy scored significantly higher. The tutorial group took longer to complete the project. Also, visual students scored significantly higher than haptic students.

Hobson, Edward Newton, *Empirical Development of a Computer-Managed Instruction System for the Florida State University Model for the Preparation of Elementary School Teachers.* The Florida State University. 1970. 31/2006.

The study involved design, development and prototype implementation. Results showed the system is technically feasible for use with 1000 trainees; the volume of data is such that the computer is needed for scheduling and testing; technical problems with development and implementation are minimal.

Holoien, Martin Olaf, *Calculus and Computing: A Comparative Study of the Effectiveness of Computer Programming as an Aid in Learning Selected Concepts in First-Year Calculus.* University of Minnesota. 1970. 31/4490.

About ½ of class time was spent using a computer terminal. Subjects wrote computer programs. One of two such classes had significant improvement via computer use. The computer was useful in learning, especially for lower-ability students.

Ibrahim, Aziz Tawfik, *A Computer-Assisted Instruction Program for Teaching the Concepts of Limits in Freshman Calculus (A Comparative Study).* State University of New York at Buffalo. 1970. 31/1689.

The conclusions were that CAI is as effective as other teaching methods in teaching the concepts of limits. Attitudes were favorable. CAI students had significantly better immediate achievement.

Isaac, Jacob, *Computer Assisted Instruction Applied to the Teaching of Logarithms—An Evaluative and Descriptive Study.* The University of Alberta (Canada). 1972.

No abstract available.

Kanes, Lelage G., *A Comparison of Two Teaching Strategies Used to Present a Unit in Elementary Mathematics Using Computer-Assisted Instruction.* University of Pennsylvania. 1971. 32/1981.

Teaching strategies were interactive (guided discovery), and expository. There was no significant difference in amount of gain in learning. Significant learning gain occurred.

Katz, Saul M., *A Comparison of the Effects of Two Computer Augmented Methods of Instruction With Traditional Methods Upon Achievement of Algebra Two Students in a Comprehensive High School.* Temple University. 1971. 32/1188.

One experimental group wrote programs and ran them on the computer. Another group wrote them and aides ran them. The group running their own programs out of instructional time performed significantly lower than controls or the other experimental group.

Klement, Jerome Joseph, *The Effects of Three Reinforcement Schedules and Two Media in Presenting Computer Assisted Instruction to Under-Educated Adults.* North Carolina State University at Raleigh. 1971. 32/1830.

Levels of reinforcement were knowledge of results only, a constant level of reinforcement, and reinforcement correlated with response. Instruction was visual, with CRT, and visual with audio. Differences were not significant, but results favored visual-only presentation.

Lasater, Mary Elizabeth Baxter, *The Development and Evaluation of a Computer-Assisted Instructional Program Involving Applications of Selected Chemical Principles.* The University of Texas at Austin. 1971. 32/5535.

The program used was written in Coursewriter III for use on a time-sharing program with an IBM 360/50 computer system. Among the conclusions were that the program did increase students' abilities, especially depending on their initial competency, and that those students who completed the program had a greater positive attitude than those who did not use the program.

Lawler, Robert Michael, *An Investigation of Selected Instructional Strategies in an Undergraduate Computer-Managed Instruction Course.* The Florida State University. 1971. 32/1190.

Health education was the subject. Three CMI treatments had 14 modules with 32 objectives. Students were self-paced. Results showed general superiority of the CMI groups over conventional groups. Some students disliked the forced mastery requirement. Students with different studying strategies had different final performance results.

Leherissey, Barbara L., *The Effects of Stimulating State Epistemic Curiosity on State Anxiety and Performance in a Complex Computer-Assisted Learning Task.* The Florida State University. 1971. 32/6209.

High state curious students have lower levels of state anxiety and performed better than low state curious students, and high trait curious students had higher state curiosity scores than low trait curious students. The Optimal Degree of Arousal concept was a source of predictions. The State Epistemic Curiosity Scale was used as a measure. Many other findings resulted.

Lisson, Helen Esther, *The Effects of Variations in Response Modes and Media on Performance, Time and Attitudes.* The University of Rochester. 1970. 31/3343.

A programmed statistics test was presented in written format and computer-assisted instruction. Presentations were text, programmed with overt response, and with covert response. There was no significant difference in criterion test scores. Machine groups took longer, and they rated higher on an attitude scale. Machine group students scoring higher on the criterion test worked faster and expressed a more favorable attitude.

Lorber, Michael Andrew, *The Effectiveness of Computer-Assisted Instruction in the Teaching of Tests and Measurements to Prospective Teachers.* Ohio University. 1970. 31/2775.

Two groups of 20 students each were the experimental group. This group had a higher score on the Measurement Competency test. They also had a lesser mean time spent on instruction. Students were pleased with CAI, did not find it cold and impersonal, and desired further contact with CAI.

Lynch, Robert Michael, *A Cost Effectiveness Analysis of Computer Assisted Instruction.* University of Northern Colorado. 1971. 32/839.

CAI for higher education was analyzed. Current research findings indicated CAI can be an effective educational tool. It can be justified for higher education when the demand for CAI instructional time is extremely large.

Majer, Kenneth Stanley: see Audio-Visual

Merrill, Paul Felshaw, *Interaction of Cognitive Abilities with Availability of Behavioral Objectives in Learning a Hierarchical Task by Computer-Assisted Instruction.* The University of Texas at Austin. 1970. 31/3345.

The task was an imaginary science; 130 college students were subjects. Groups were example-only, objective-example, rule-example, objective-rule-example. Rule groups needed less time and fewer examples than non-rule groups. Objectives reduced the number of examples needed. It was concluded that objectives have orienting and organizing effects which dispose students to attend to, process, and structure relevant information in accordance with the objectives.

Moloney, James Michael, *An Investigation of College Student Performance on a Logic Curriculum in a Computer-Assisted Instruction Setting.* Stanford University. 1972. 32/6851.

This was done in order to determine the factors affecting problem difficulty and did, in fact, provide some quantitative insights into and a definition of problem solving difficulty in the area of logic.

Motley, Drucilla, *An On-Line Computer-Managed Introduction to Indexing: An Individualized Multi-Media Instructional Package Compared to the Traditional Method, Nine Hours of Teacher-Group Contact.* The Florida State University. 1972. 32/7019.

Cassettes, slides, computer-assisted lessons, programmed texts, search exercises with computers and manually searched indexes, etc. were used in the mutli-media package. It was found that compared to those not using the multi-media approach, there was no significant difference as far as achievement or attitude towards computer-managed method of instruction. There was found to be a significant relationship between library science G.P.A. and achievement, though. Various conclusions and recommendations were given including continued development and use of multi-media packages.

Nielsen, Jack Glasgow, *A Model of Cost Estimation for Establishing Computer-Assisted instruction in Public School Districts.* The University of Iowa. 1971. 32/2362.

Specifically described were equipment, instructional programs, personnel and costs. A model was developed to aid Iowa administrators in establishing CAI. Cost per student hour should be considered; factors in that cost were explored.

Olivier, William Parr, *Program Sequence by Ability Interaction in Learning a Hierarchical Task by Computer-Assisted Instruction.* The University of Texas at Austin. 1970. 32/3796.

The sequence of instruction in a fixed set of highly controlled learning materials was studied. The task was an imaginary science. Self-selection of sequence did not produce any increase in performance or interest, so a predetermined hierarchical sequence may achieve the desired goal as efficiently.

Orgren, Carl Franz: see Library

Ostheller, Karl Olney, *The Feasibility of Using Computer-Assisted Instruction to Teach Mathematics in the Senior High School.* Washington State University. 1970. 31/4042.

This study used high achievers in mathematics as the sample using 38 senior high school students. It was found that CAI was as good as any other method of instruction, however there was a decrease in positive attitudes as the students seem to prefer student-teacher interaction.

Raymond, Kenneth Irving, *A Computer-Based Data Sheet for Advisement.* State University of New York at Buffalo. 1972.

No abstract available.

Robardey, Carlton Porterfield, Sr., *A Study of Selected Michigan Elementary and Secondary Teachers' and Principals' Attitude Toward Computer Assisted Instruction.* Michigan State University. 1971. 32/4929.

Data was collected by an attitude scale, an instrument to measure knowledge, and a background questionnaire. Analysis of returns showed support for this statement: There is a statistically significant positive relationship between knowledge and attitude with respect to CAI.

Ronan, Franklin Delano, *A Study of the Effectiveness of a Computer When Used as a Teaching and Learning Tool in High School Mathematics.* The University of Michigan. 1971. 32/1264.

Algebra-trigonometry was taught to average ability students. The computer was used as a computational tool, as a teaching and learning tool, and experimentally. The computer group was superior in several areas of mathematical learning.

Rudolph, Eleanore L., *A Survey of Data Processing and Computer Use in Instruction in Illinois Secondary Schools.* Northern Illinois University. 1972. 33/505.

One-third of the schools used computers in some way. Of these, 41% used them for administration only, 5% for instruction only, and 54% used them for both. Three-fourths of these schools are in the metro Chicago area. One hundred and forty-five of the 173 instructional applications reported were problem solving for mathematics and science, or teaching EDP skills in business education. There was little use of CAI, CMI, computer mediated instruction, games and simulations.

Scanland, Francis Worth, *An Investigation of the Relative Effectiveness of Two Methods of Instruction, Including Computer-Assisted Instruction, as Techniques for Changing the Parental Attitudes of Negro Adults.* The Florida State University. 1970. 31/4443.

CAI and lecture-discussion instruction were given to teach parents the value of education for their children. A remote computer terminal was placed in a rural school. CAI changed attitudes positively; lecture-discussion did not.

Schmitt, Jean Katherine Samuelson, *Modifying Questioning Behavior of Prospective Teachers of Mentally Retarded Children Through a Computer-Assisted Teacher Training System (CATTS).* The University of Michigan. 1969. 30/4296.

Sixteen arithmetic and sixteen social studies lessons were used. Those with CATTS visual feedback asked broad questions during a greater percentage of classroom interaction time. The results justify the use of the CATTS system for training specific behaviors of intern teachers.

Small, Hazel Christine, *Effectiveness of Reinforcement Schedules in Relation to Certain Adult Characteristics Using Computer Assisted Instruction.* North Carolina State University at Raleigh. 1970. 31/5282.

Three groups of 16 each were reinforced by: 1. knowledge of results only, 2. knowledge of results plus praise on a 30% random schedule, 3. knowledge of results plus praise on a 100% schedule. Achievement results show the 30% praise most effective for subjects with high self-concepts, 100% praise most effective for those with low self-concepts. Overall, the 30% praise group was superior.

Smith, Douglas Duane, *A Study of Learner Characteristics and Computer Assisted Instruction Decision Making.* The Ohio State University. 1971. 32/6018.

This study seemed to indicate the personality of the student is an important factor in the development of a theory of CAI. The learner's attitude seems related to his personality and the amount of freedom he has in sequencing his instruction. Sensing students would have the more positive attitude if given the highest degree of freedom, and the intuitive student would prefer more structure.

Smith, Ian David, *The Effects of Computer-Assisted Instruction on Student Self-Concept, Locus of Control, and Level of Aspiration.* Stanford University. 1971. 32/4432.

Junior high school students used a CAI drill-and-practice program. No large increase in self-concept, feelings of internal control, or level of aspiration was found. A pattern of change toward more realistic attitudes was found.

Stanford, George Henry, *Relationships Between Expectancy and Performance on a Computer-Assisted Instructional Task.* The University of Texas at Austin. 1971. 32/5622.

In this study the student controlled the pace at which he worked. Eighty subjects were used, 40 in a low expectancy group, 40 in a high one. It was found that how they performed on each of the previous rules, determined their performance expectancy for the next one.

Stewart, Lawrence Gorden, *The Feasibility of a Concept for the Development of Computer-Assisted Instruction for the Air Force Reserve.* The Catholic University of America. 1971. 32/105.

This study showed that CAI costs are not so much higher than alternatives. CAI has significant cost savings and efficiency of training. It can be an effective and successful instructional method.

Summerlin, Lee Roy, *A Feasibility Study of Tutorial Type Computer Assisted Instruction in Selected Topics in High School Chemistry.* University of Maryland. 1971. 32/5636.

One group used the computer-assisted instruction and one did not, with a post test being administered to compare the students' performances. It was found that the CAI group completed their program faster, and that their attitudes were favorable and interest high, but that the non-CAI group performed better on the first and second post test. It was decided that a shorter tutorial program used to supplement classroom instruction may be the most efficient as student/teacher interaction is important.

Tira, Daniel Edward, *An Introduction to the Theory and Application of the Product-Moment Family of Correlations Via a Computer-Assisted Instructional System.* The Ohio State University. 1970. 31/1635.

The program was designed, produced, and evaluated. Ten student-evaluators reviewed the CAI course and completed opinionnaires. Recommendations from this project included need for identification of specific statistical characteristics of learners and addition of several other presentations of the concepts in the course.

Vollum, Muriel Arlene, *The Effectiveness of Proctor Interaction in Computer-Assisted Instruction in Relation to Certain Adult Characteristics.* North Carolina State University at Raleigh. 1971. 32/1255.

Female undereducated adults aged 18–51 were subjects. No significant difference was found from use of proctors. The lower self-esteem group took longer to complete lessons.

Washburn, Robert Miles, *CEMP—A Computer-Enriched Mathematics Program.* Cornell University. 1969. 30/5179.

Junior high, twelfth grade and college freshmen level subjects were involved. Programming skills were coordinated with strengthening the understanding of mathematical principles. Results show strengthening of this understanding. Gain is independent of age and level of achievement. There was strong positive attitude toward CEMP and attitude toward mathematics seemed to improve.

Whitcomb, Barry Michael, *The Effects of Differentially Reinforcing Stimuli on the Learning of Arithmetical Concepts Via Computer-Assisted Instruction.* University of Maryland. 1972. 33/509.

Fifty-five fifth and sixth grade males participated. CAI produced a significant increase in learning. Positive reinforcement on varying ratios made little difference in learning. CAI was considered valuable in allowing success experiences for each child on each problem.

LIBRARY

Allen, Kenneth William, *An Investigation of Student and Faculty Attitudes and Their Utilization of the Community College Library in Three Selected Colleges Within Illinois.* Northern Illinois University. 1970. 31/2949.*

Questionnaires were administered to students in classes, to faculty, and to students and faculty as they entered the library. Sixty-one percent gave study as their primary reason for coming to the library; 16 percent came to consult a librarian. Full-time students had more favorable attitudes than part-time students. The level of education of faculty had little impact on their attitudes.

Altman, Ellen O., *The Resource Capacity of Public Secondary School Libraries to Support Interlibrary Loan: A Systems Approach to Title Diversity and Collection Overlap.* Rutgers University The State University of New Jersey. 1971. 32/994.

A statistical model estimated an ILL network among schools would increase potential net titles by a factor of seven and potential net volumes by a factor of 12. Further study showed even the strongest libraries had weaknesses that would be aided by an ILL network. A mathematical model run by computer indicated that pools of 40 or 50 libraries constitute an optimum secondary school library system.

Anderson, Carolyn Joyce, *Role Expectations of the High School Librarian as Perceived by Librarians, Principals, and Teachers.* University of Oregon. 1970. 31/5437.

Oregon high schools were used as the sample. Librarians were found to perceive more difference between their views and the views of others than actually existed. On normative statements, teachers and principals had significant difference in their expectations for libraries. Principals and librarians were more in agreement than teachers and librarians on normative statements.

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Bard, George Ingersoll, *Library Books for Children: An Analysis Using Specific Social Studies Themes in the Curriculum.* Indiana University. 1970. 31/4375.

This study sought to determine if children's literature contained within it discussions of 12 selected social studies themes. A random sample of 12 Newbery winners and runner-ups was used. It was found that these themes were represented in these books. It showed that non-fiction, fantasies, etc. can illustrate themes in social studies. Since research has shown an inadequacy of these themes in textbooks, it seems beneficial to use children's literature as an accompanying aid in teaching.

Barth, Edward Walter, *The Relationship Between Selected Teaching Structures and the Activities of Media Centers in Public Senior High Schools in the State of Maryland.* The George Washington University. 1971. 32/1540.

It was found that schools with fewer staff members and fewer teaching structures could provide as many services as the larger staffed schools. All centers acquired similar instructional materials. Among the recommendations were the following: A para-professional should be employed in centers having only one staff member. Librarians should become more involved with the classroom. More funds should be made available. In-service programs should be developed to instruct the teachers and para-professionals in the production and use of materials.

Becker, Dale Eugene, *Social Studies Achievement of Pupils in Schools with Libraries and Without Libraries.* University of Pennsylvania. 1970. 31/2411

Social studies learning was judged in four specific areas. Two schools with libraries and two without were used, using two fifth grade classes in each. Students kept a log of materials they used. Achievement was judged by parts of the Iowa Test, and a social studies content inventory was also used. It was found that the presence of a library and librarian did have a significant influence on information gathering skills and charts and graph reading but did not in map and globe reading and content acquisition.

Berry, June E. *A Comparative Analysis of Ratings of Library Concepts Given by College Freshmen and Those Given by Librarians.* Brigham Young University 1970. 31/5437.

The students consistently rated terms less favorably than did the librarians. Students' least favorable concept was "library profession." Other terms with significant difference between ratings were "librarians, circulation, reserve books, periodical indexes, card catalog, and university library."

Blazek, Ronald David, *Teacher Utilization of Nonrequired Library Materials in Mathematics and the Effect on Pupil Use.* University of Illinois at Urbana-Champaign. 1971. 32/994.

This tried to determine if the student's use of nonrequired material was dependent on the teacher's use of the materials. Two groups of 17 pupils each were used, one where the students were encouraged to use the materials but knew they would not be tested on it versus a group where only a fleeting remark about the library materials was made. Circulation records, interviews and ratings by the pupils of both groups were used. It was shown that teacher utilization was positively and significantly related to the student's use of the library not only as far as mathematical materials, but other fields as well.

Carter, Esther May, *The Organizational Structure for State School Library Supervision and the Functions, Duties, and Activities of State School Library Supervisors.* Indiana University. 1971. 32/2719.

Supervisors in the upper middle hierarchical level were able to perform a wider range of regulatory, service, developmental, and public support and cooperation activities than those in lower hierarchical levels. The primary activities of supervisors were service activities of a consulting nature.

Childers, Howard Jay, *Encyclopedia Usage in Secondary Schools.* Washington State University. 1971. 32/2297.

Three high schools in Washington which offered independent study were used (121 students, 60 teachers). Studied were: How much teachers used encyclopedias in assigning studies; how much students used them in their work; and student and teacher opinions on their use. It was found that students did not consider encyclopedias a valuable learning resource in independent study.

Cookston, James Sanders, *Development of Louisiana Public School Libraries, 1929-1965.* The Louisiana State University and Agricultural and Mechanical College. 1971. 32/2719.

State and national leadership previous to 1929 and the activities of the Louisiana State Department of Education are discussed. Special attention is given to the Library Section of the Department. Other agencies and people who affect the development of libraries, such as professional organizations, also are considered.

Davis, Lattice Rucker, *Public Elementary School Media Centers in Baltimore County, Maryland, as Compared with the 'Standards for School Media Programs', 1969.* The George Washington University. 1971. 32/1540.

This was done using a questionnaire sent to 103 elementary schools. Selected central office personnel were interviewed. It was found that more than 50% of the centers did provide most of the recommended qualitative services. Media programs were found to be understaffed and that central processing was not to be used for non-print materials. Budget and equipment were also found to be below the standards. Quantitative standards were usually not met. Recommendations were given.

Erickson, Wallace Edwin, *Self-Perceived Needs of Media Personnel for Professional Media Preparation.* University of South Dakota. 1972. 33/2961.

South Dakota media personnel, through the use of opinionnaires, voiced their opinions regarding the need for knowledge in specific media-related topics and what education was necessary in order to fulfill their duties. Some of the findings included that the population studied spent ½ of their time in media-related work, that information about cataloging and classification was the most important to possess, and that two non-media topics, that of school curriculum and the supervision and improvement of instruction, be considered. Six topics were listed that the sample did not feel necessary for a preparatory program. It was recommended that further research on the preparation of media personnel should be undertaken.

Evraiff, Lois Ann Klehamer, *A Survey of the Development and Emerging Patterns in the Preparation of School Librarians.* Wayne State University. 1969. 31/1825.

This studied the period from 1887 to 1969 using survey data from various publications from ALA and the American Association of School Librarians and other selected books and periodicals. Also 1967 college catalogs from both accredited and non-accredited library schools and undergraduate programs were analyzed. It was found that library standards and accreditation practices have affected the programs. There is still disagreement between public school personnel and library school personnel as to the needs of their school librarian. Significant changes were noted in the 1960's.

Fortin, Clifford Charles, *The Relation of Certain Personal and Environmental Characteristics of School Librarians to Their Life Values and Work Satisfactions.* University of Minnesota. 1970. 31/3573.

The Allport-Vernon-Lindzey Study of Values was used to ascertain school librarians' values. A questionnaire was used to see how the librarians viewed their positions, satisfactions, etc. This was done to test the assumption that there is a specific set of values and satisfactions present in the school librarian regardless of his education, role and experience. Among the findings were that the majority were women, that 90% of them liked their jobs, that their values were similar to women in general and that those librarians with the most training were more satisfied with the service aspects of their jobs. The major conclusions drawn from this upheld the stereotype of the school librarian: Although they were happy with their work there was dissatisfaction with working conditions and the impact of library programs on the school rests with the satisfied librarian.

Gillespie, John Thomas, *A History and Descriptive Study of the Media Centers of Montgomery County Public Schools, Montgomery County, Maryland (1948-1969).* New York University. 1970. 31/5811.

With the exception of some audiovisual equipment, the media center program in Montgomery County did not meet national standards. However, it was more successful as far as state standards, and served as a model for educational institutions outside the County. Recommendations are made.

Hamil, Betty Caldwell, *The Critical Requirements for Open Elementary School Library Programs as Defined by Selected Seventh Grade Pupils in the Fulton County, Georgia, School System.* University of Georgia. 1970. 31/6080.

One hundred and eighty seventh graders provided data through the critical incident technique. Analysis was made of successful and unsuccessful visits to open libraries. Behaviors and elements of these visits were in six areas, in order by number of elements: facilities, organization framework, activities, personnel involved in library programs, skills acquired through class-library instruction, and goals in library activities. These six were significantly related to years in an open school library, horizontal organizational pattern of grades, number of library personnel, and an index of social position of the student's school community.

Harkin, Willard Dwight, *Analysis of Secondary School Library Media Programs in Relation to Academic Success of Ball State University Students in Their Freshman and Sophomore Years.* Ball State University. 1971. 32/4641.

College grade-point averages were used to judge academic success in an effort to determine if high-media student ratio high school backgrounds contributed to students' academic success. Two hundred students participated from 20 high schools, ten having high-media student ratios and ten low. There was not found to be any marked difference in students from the two groups.

Holzberlein, Deanne Bassler, *The Contribution of School Media Programs to Elementary and Secondary Education as Portrayed in Professional Journals Available to School Administrators from 1960 To 1969.* The University of Michigan. 1971. 32/6466.

This was done by examining 14 professional periodicals. It was found that articles concerning the media staff were only accurate when done by the media personnel. In the early 1960's, secondary facilities were emphasized, by 1969 it had shifted to primary grades. Though there were more articles, they had little to do with the administration of these centers. Although research and development was stressed in educational articles, it was neglected in media program articles.

Huang, George Wenhong, *Public Secondary School Library Programs in Idaho.* University of Idaho. 1969. 30/5461.

This study sought to determine the adequacy of these library programs compared to library standards. A survey covering services, materials, facilities, organization, administration, personnel and expenditures was answered by 156 public secondary schools. It was found that a large percentage was below state, regional and national standards. It was also found that the size of the school did not have a direct bearing on its programs. There were many other findings in this study.

Ishikawa, Kivoharu, *Teacher Attitudes Toward School Library: An Investigation of Library Service Levels Related to Teacher Characteristics.* George Peabody College for Teachers. 1972. 33/1589.

There was found to be a positive and significant correlation between teachers' attitudes towards the school library in those schools which had good libraries. There seemed to be no significant difference in relation to professional or personal characteristics of the teachers.

Jay, Hilda Lease, *Increasing the Use of Secondary School Libraries as a Teaching Tool.* New York University. 1970. 31/2413.
Through questionnaires to 88 teachers and 1,240 students, it was determined what teachers reported needing in order to better use the libraries as a teaching tool and what the students complained about. This was done in an effort to increase the use of the instructional materials held by the schools. Reassessment questionnaires at the end of the study showed increased use of the library materials.

Jensen, Louis Richard, *Educational Services Provided by Media Centers in Selected Elementary Schools.* The University of Nebraska-Lincoln. 1970. 31/4038.
Questionnaires to four states led to these conclusions: with few exceptions, these media centers did not meet any of the 1969 Guidelines by ALA—DAVI. Programs of services were limited by facilities, personnel, resources, funding. Strengths of programs were availability of print and non-print materials, personnel, facilities, equipment, and services provided. Centers influenced instructional practices by enabling teachers to meet student needs, interests, and abilities through multi-media approaches, individualization, and independent study.

Kittilson, Bruce Joseph: see Audio-Visual

Lee, Chi Ho, *The Library Skills of Prospective Teachers at The University of Georgia.* University of Georgia. 1971. 32/5089.
Questionnaires and the Library Orientation Test for College Freshmen were given to first quarter freshmen and senior student teachers to determine their library skills and ascertain their previous library instruction. Also the Questionnaire for Library Instruction was sent to selected teacher preparation institutions. Among the many conclusions were that library skills are important to acquire, that the seniors were more knowledgeable and more consistent in their skills and that teacher preparation institutions were aware of the need for library instruction.

Mann, Elizabeth B., *The Florida Public School Library Media Program, 1969-1970.* The Florida State University. 1972. 33/773.
Staffing, financial support, collection, equipment, and physical facilities in the 1,803 public schools of Florida were surveyed, using the Standards for School Media Programs as the quantitative criteria. It was found that the school district's size is related to the first three above-named characteristics. The program in Florida did reflect a unified concept, but schools did not generally meet the quantitative criteria.

May, Frank Curtis, *The California School Library Program Funded Through the Elementary and Secondary Education Act Title II, Phase Two for 1965-1966: An Evaluation on Selected Criteria.* University of Denver. 1971. 32/4036.
This program provided large quantities of library materials in order to establish pilot or supplemental programs in selected schools. On the whole, it was found that the program was successful.

Meyers, Richard Stuart, *The Community College Instructional Media Center—A Theoretical Paradigm of Operation.* University of Southern California. 1971. 32/3727.
Questionnaires and visitations with interviews provided data. General conclusions included the following. The literature showed little on theoretical models of IMC's. There were gaps between theory in literature and actual field practice. Many community colleges lack an IMC. Many IMC directors lack a systems concept of instruction.

Miller, Rosalind Elaine, *Instructional Materials Centers as Related to Types of Learning: The Application of Gagne's Learning Principles to Media Stimulus.* Saint Louis University. 1972. 33/2962.
This study was done in order to try to develop criteria, other than quantitative ones, for the development of instructional materials centers, using the learning principles of Robert Gagne in developing a model for the organization of these centers. A checklist was also devised to determine if the centers met the patrons' needs.

Orgren, Carl Franz, *Differences in Learning Under Two Strategies of Computer-Assisted Instruction for a Basic Reference Course in Library School.* The University of Michigan. 1971. 32/1543.
This compared drill exercise instruction administered by a computer to computer-assisted instruction simulating library reference situations. Twenty-four students were used. It was found that both were similarly effective in both factual and more complex situations. The

simulation method, however, does give the student experience for future reference encounters.

Peterson, Gordon Charles, *A Study of Library Books Selected by Second Grade Boys and Girls in the Iowa City, Iowa Schools.* The University of Iowa. 1971. 32/4847.

This study enumerated the findings to several questions concerning library books and second graders. These questions were: which titles and which subjects were most frequently selected, what the quality of these books was, if the selected books were completely, partially, or not at all read, why the books were selected, why they were liked or disliked and which were the most popular techniques used by the authors and illustrators. Seven hundred and forty-five second grade students were used. The data was collected using circulation records and interviews.

Pfister, Frederick Charles, *School District Professional Libraries in Michigan.* The University of Michigan. 1970. 31/4187.

Surveys were used to gather data. It was found that staff, budget and collection size corresponded directly with district size. Print material was considered more important than non-print material. School personnel who used district libraries were older and more experienced, with advanced degrees and system-wide positions. It was recommended that regional centers establish in-service education programs for local media specialists.

Picache, Ursula De Guzman, *Some Effects of Summer Institute Participation on School Librarians' Provision of Services and on Their Attitudes Toward the Instructional Materials Center Concept.* University of Illinois at Urbana-Champaign. 1969. 31/776.

To determine the effects of the institutes, a comparison of library services provided and attitudes held by 15 school librarians who had attended the six NDEA institutes in 1965 was made. The study compared them with non-participants through observation and interviews. It was found that the institutes did have statistically significant positive effects on services provided in the schools. However, attendance at these institutes did not seem to affect attitudes.

Reck, Lawrence Raymond: see Audio-Visual

Richardson, Selma Katherine, *The Readability of Classroom Periodicals for Upper Elementary Grades.* The University of Michigan. 1969. 30/3648.

Readability was estimated with a readability formula, compared with the publishers' grade-level recommendations. The study tried to determine if reading levels stayed constant throughout all issues and if periodicals in certain grade levels were comparable in difficulty. Eighteen periodicals selected by publishers as being in the fourth to seventh grade levels were used. Only seven were found to be in that level. Publisher estimates were low. Also it was found that for the same suggested grade level they were not comparable.

Rupert, Elizabeth Anastasia, *Pennsylvania Practicum Program for School Librarians: An Appraisal.* University of Pittsburgh. 1970. 31/2413.

This studied the practicum and student-teaching experience for the student-teacher-librarian graduating in Spring and Summer of 1968 from the eight Pennsylvania colleges offering undergraduate work in school librarianship. A descriptive survey was used, employing a questionnaire submitted to the graduates; a follow-up interview was also used. Among the conclusions were that the program was more traditional than innovative, that it did not really offer the student sufficient opportunity to practice the role of school librarian and that it did not seem to have a great unity of purpose. Recommendations for improving the program were given as well as ones for further research.

Rutland, John Thomas, *A Study of the Basic Physical Facilities and Educational Roles of Secondary School Libraries.* The University of Tennessee. 1971. 32/2557.

The objective of studying these secondary-school libraries, all of which were constructed or renovated since 1961, was to establish guidelines. Questionnaires regarding facilities and programs of the libraries were given to students, teachers, principals and librarians. Relevant literature was also reviewed. Eight basic guidelines were established, and an eclectic library, combining the best qualities of the 12 field libraries, was presented as a sample.

Schulzetenberge, Anthony C., *Interests and Background Variables Characterizing Secondary School Librarians Who Work With Teachers in Curriculum Development and Improvement of Instruction.* The University of North Dakota. 1970. 32/7019.

This study was done using 114 secondary school head librarians in Minnesota as the sample. Data was gathered in order to see to what extent the librarians worked with the teachers on curriculum development and instruction improvement. Personal and school background data on the librarians was gathered by use of a questionnaire. The Strong Vocational Interest Blank was used to determine interest data. Principals were also given a questionnaire supplying information as to what extent the librarians worked with the teachers.

Smith, Rose Marie, *Development of a Scale to Differentiate Traditional and Contemporary Attitudes Toward School Library Services.* The University of Florida. 1971. 32/6750.

Two hundred and twenty-three attitude statements taken from recent library literature were rated as to their favorability or unfavorability to contemporary viewpoints towards school library services. These were then administered to 51 librarians who had been identified as traditional, to 52 holding contemporary viewpoints, and to 27 experts in the field of library science. It was ascertained that the developed scale was successful in differentiating between traditional and contemporary attitudes towards school library services.

Ward, Pearl Lewis, *Federal Aid to School Libraries: A Study of the Title II, Phase II Program in California, 1965-1966.* University of Southern California. 1969. 30/2054.

Forty-eight pilot project libraries were studied. Questionnaires were sent, and 26 libraries were visited. It was found that district support is needed and that the staff in the Bureau of Audio-Visual and School of Library Education should be enlarged.

Watson, Lynn Allen, *A Comparison Between Elementary School Libraries of Selected Non-Urban Appalachia Counties in Northeastern Pennsylvania and Selected Non-Appalachia Counties in Southeastern Pennsylvania.* The Pennsylvania State University. 1971. 33/339.

The libraries in the two areas were compared as far as the amount of libraries, their quality, the extent of expenditures of ESEA Title II monies and whether the Title II Act of 1965 had a similar or different effect on the two areas. Questionnaires and interviews were used. It was found that the non-Appalachian libraries were significantly better on each quality characteristic. Since 1965 there had been a definite increase in libraries in both regions, favoring again the non-Appalachian areas. As far as monies, a change was seen to be occuring in that the non-Appalachian areas, which previously spent more ESEA II money, receive and spend less federal funding, and the Appalachian funding has increased, making them about similar.

Welch, William H., *The Instructional Materials Center: Implications for a Management Plan.* University of Houston. 1969. 30/5216.

This studied IMC's role in secondary education, specifically whether to be an expanded library or the heart of the instructional program. Data were gathered from written material and observation. Alternative management plans were developed. Work-flow diagrams were employed. Guidelines for IMC installation procedures were provided.

Wert, Lucille Mathena, *Library Education and High School Library Services.* University of Illinois at Urbana-Champaign. 1970. 31/2949.

It was found, using eight school libraries in Illinois, four of which had librarians with master's degrees and four whose librarians had only undergraduate training, that those with the higher degree did have more extensive programs of reader services. This was ascertained through a record of activities kept by the librarian, a checklist of reader services, questionnaires distributed to teachers and students, interviews with the librarians, teachers and administrators, and direct observation of the various programs.

Wolf, Edward G., *An Evaluation of the Capability of the Pennsylvania Regional Resource Centers to Provide for the Availability and Accessibility of Pennsylvania Social Science Periodicals.* University of Pittsburgh. 1972. 33/2962.

It was found that the library system is uncoordinated and that Pennsylvania social science periodicals have *not been systematically collected. Union lists were not found to reflect what is available. Recommendations are made for improving the system.*

Wolf, Martin Paul, *A Description and Evaluation of the Present Status of the Libraries in the Public Junior and Community Colleges in Michigan.* Michigan State University. 1971. 32/6789.

This survey had a fourfold purpose: 1) to describe the present status of libraries in community and junior colleges in Michigan 2) to develop criteria for evaluation 3) to identify the weaknesses and strengths of these library programs and 4) to identify emerging library concepts and practices. A survey instrument was developed in order to do this and six quantitative criteria established by a panel of community college administrators and librarians. Seven libraries were judged to be superior and quantitative recommendations were made in several areas. Several new concepts and practices were also identified.

Ziegler, Elsie Mae, *A Study of the Effects of Creative Dramatics on the Progress in Use of the Library, Reading Interests, Reading Achievement, Self-Concept, Creativity, and Empathy of Fourth and Fifth Grade Children.* Temple University. 1970. 31/6482.

This two-year study was done at nine public library branches. The results were that the creative dramatic program did not enhance the child's development in the above-named characteristics, as compared to students exposed to storytelling and the use of library facilities. One other finding was that children exposed to storytelling had a greater self-image compared to library usage and creative dramatic groups.

PROGRAMMED INSTRUCTION

Adelman, Adrien, Jr., *A Structured Teaching Approach of a Science Principle Using a Programed-Instruction Film.* SUNY-Buffalo. 1970. 32/832. *

Films were 25 and 20 minutes long. Programmed review books were used with each film. This was an effective teaching technique. Instruction that allows the exclusion of irrelevant variables is important. Stating the rule involved is helpful in eighth and ninth grades, but detrimental in seventh grade.

Aly, Nahed Abd-El-Azize Mohamed, *The Use of Programmed Learning Compared With an Essay Form including the Same Information for Orientation of Secondary School Students to Career Nursing in the United Arab Republic.* Boston University. 1970. 32/227.

A 126 frame program was used. Both groups gained from treatment. A two month followup test showed significantly improved scores from the group having programmed learning.

Anderson, Carol Joy: see Audio

Arnesen, James Francis, *The Use of Reading and Listening Tests to Diagnose and Match Students' Learning Needs with Respect to Reading or Listening Modes of Presentation of Programed Material.* The University of Iowa. 1972. 33/1535.

Ninety-seven college students were subjects; they used identical reading and listening forms of a programed text. The matching of students' needs with the programs was successful. The low reading high listening group did significantly better with listening materials. Students could not accurately choose which mode would be best for them.

Ault, Frederick Keith, *Cognitive Style, Attitude Toward Science, and Sex on Success with Programmed Instruction on Kinetic Theory.* Indiana University. 1970. 31/5868.

Ninety-six college chemistry students were subjects. A linear program was constructed. A highly significant difference was found in favor of the experimental group. Cognitive style and sex were not significant factors in learning. There was a trend toward correlation of high positive attitude and test scores. Males tended to have more positive attitudes.

Bockman, David Carl, *The Effectiveness of Programed Instruction versus the Lecture-Discussion Method of Teaching Basic Metallurgical Concepts.* University of Northern Colorado. 1971. 32/1893.

One-hundred and twenty-four students in lower division metal classes were divided into two groups, each utilizing one of the methods of instruction. The final conclusions were that programmed instruction was found to be as effective as conventional methods and should be used as it allows for varying abilities as students can go at their own speed, and also reduces cost as one teacher can serve a larger number of students.

Brandinger, Alice L., *Programmed Instruction, Sign Language, and Formal Directions to a Reading test for Deaf High School Students.* Rutgers University The State University of New Jersey. 1970. 31/3405.

One-hundred and thirty-five subjects ranged from 12 to 17 years old. Programmed directions were an adequate substitute for the original directions on tests. They provided a more uniform method of giving directions, since they were written for the deaf students.

Brock, Robert Glenn, *The Relationship of Selected Variables to Achievement in English and Mathematics in the Programed Learning Materials at Cape Fear Technical Institute.* North Carolina State University at Raleigh. 1971. 32/5522.

Subjects were preparing for the high school equivalency exams. For females there was a significant relationship between entry level and performance in the two subjects. Achievement on the programed texts was a good indicator in English of success on the equivalency exams.

Brown, Robert Wayne, *Effects of Socio-Economic Level, Anxiety, and Feedback in Programmed Instruction.* University of Southern California. 1970.

No Abstract Available.

Brucker, Paul James, *The Effects of an Enclosed Individual Learning Environment Interacting with Two Personality Traits on the Achievement and Opinions of College Students Learning Through The Use of Programed Instruction.* Indiana University. 1969. 31/52.

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Ninety-two college students were split by traits, anxiety, and permeability (extroversion and introversion). They worked in an enclosed carrel or an open small room. The environments made no significant difference on immediate or delayed achievement. High anxious subjects got lower scores. High anxious in carrels did worst, and had less favorable opinion toward programed instruction.

Brune, Joan Herzfeld, *Testing the Effectiveness of a Programmed Course in Handwriting Conducted as Inservice Education by a Professional Association.* University of Illinois at Urbana-Champaign. 1971. 32/5667.

Thirty-four primary teachers were subjects. The programmed materials had a significant effect in manuscript handwriting but not in cursive. It seemed feasible for an association to sponsor such a program.

Buchanan, Benjamin, *A Comparison of Achievement scores of Selected Fifth Grade Pupils whenTaught by Using Conventional Method and When Taught by using Programmed Materials.* Mississippi State University. 1969. 29/3762.

One-hundred and thirty-four fifth graders were taught reading by Scott, Foresman's books and by Sullivan Associates' programmed reading series. Conventional groups were substantially higher in speed and accuracy; programmed groups were substantially higher in comprehension. Both were equal in vocabulary and in total scores.

Burkett, Beverley Zielie, *A Benefit/Cost Analysis of Programmed Instruction for the the Initial Teaching of Reading.* The Catholic University of America. 1970. 31/1527.

The Borg-Warner System 80 and the Sullivan Associates' Programmed Reading were used in first year classes. A benefit/cost analysis showed justification for use of these materials. Benefits were greater than the traditional program, and costs were less. With one as normal teaching, factors were about 1.8. The poverty sub-group had factors of about 1.5.

Butts, Franklin Eugene and Gary L. Prickett, *The Effect of Audio-Tutorial and Programmed Instruction Laboratories on Achievement in Accounting Principles.* University of Northern Colorado. 1969. 30/4060.

There was no significant difference in the three groups' mean scores. The experimental groups had greater flexibility of time and allowed greater enrollments in class.

Cadart-Ricard, Odette Marie-Helene, *A Programed Approach to Self-Teaching of the French Verb System.* University of Oregon. 1970. 31/5113.

Thirty students used this program on their own for 10 weeks. Two groups had conventional teaching. The programed group had significantly greater gain. This study supports the contention that non-linear programming is needed in foreign languages, but that they are programmable. Students were willing to use the programed material.

Carson, James Edward, *The Effects of Programmed instruction as a Supplementary Teaching Aid in Adult Basic Education at the Ohio State Reformatory, Mansfield, Ohio.* The Ohio State University. 1970. 31/4441.

Sixty-two subjects were in a 12 week study. Subjects were grouped into three levels of ability. Programmed instruction was found as a feasible supplementary teaching aid for easy and difficult level inmates. When not overused, a high rate of motivation is present. Teacher contact is needed. Appropriate level materials must be provided the inmates.

Carter, Lynne, *A Programmed Instruction Unit in Energetics for Introductory Biology Courses.* University of California Berkeley. 1972. *No Abstract Available.*

Casko, John Steel, *A Comparison Between Criterion-Referenced and Procedure-Oriented Methods of Programmed Instruction Used for Teaching Orthodontic Appliance Construction.* University of Pittsburgh. 1971. 32/4369.

Three programmed methods of instruction were tested for effectiveness. One had a criterion-referenced emphasis, one a procedure-oriented reference, and one a combination of the two. Students receiving the programmed instruction did at least as well as those using regular instruction.

Celio, David Leon, *A Study of the Efficacy of Several Types of Programmed Interpersonal Skills Training in Facilitating Relating Behavior.* University of Maryland. 1971. 32/3019.

One treatment used a programmed text; another had audio modeled conversations; another combined all treatments. There was a conventional treatment group as control. The programmed training was feasible. The two groups using it gained the most. Because this was used without professional personnel, it has time advantages in training.

Clissold, Grace Kathryn, *Concept Attainment: A Descriptive Study of Programed Learning.* University of Washington. 1972. 33/187.

This study showed that subjects with a high grade point average could complete programmed materials in the least amount of time. When a subject took a long time to complete the materials, achievement of learning sets decreased.

Cogen, Victor, *The Achievement of Emotionally Disturbed Students Using Programmed Learning Compared to Achievement in Current Instructional Practices.* Temple University. 1970. 31/5883.

Thirty-six emotionally disturbed students were used for this study, randomly assigned to the experimental or control group. One group had English grammar presented via a programmed text, the other had it presented the normal way with filmstrips, pictures, lectures, stories, etc. with oral and written assingments. Pre and post-tests (of the California Achievement Test) were given. A significant increase was shown for those using the programmed text. A discussion of how the programmed text was specifically designed to meet the needs of the emotionally disturbed child is included.

Conroy, David E., *The Effects of Age and Sex upon a Comparison Between Achievement Gains in Programmed Instruction and Conventional Instruction in Remedial Algebra 1 at Northern Virginia Community College.* The American University. 1971. 32/5102.

Subjects were paired. Greater age led to greater ability to use the programmed instruction. There was no sex difference in results. There was no overall significant difference between the two methods of instruction.

Cunning, Charles John, *Changing Student Attitude Toward Programed Instruction and Measurement of its Effect.* University of Iowa. 1970. 31/4540.

Six-hundred and fifty-three students enrolled in Educational Psychology and Measurement were used for this study. Their attitudes towards programmed learning were measured by a semantic differential, and an attitude questionnaire which included a direct question. They were then given either a positive or a negative lecture on programmed learning and the above mentioned tests of attitudes were administered. They all then completed a programmed instruction book on elementary statistics and their learning was evaluated through a 91 item criterion test. It was found that student's learning from programmed instruction is related to his attitude towards it.

Cougle, Leroy Gilbert, *An Evaluation of Programmed Instruction in a Management Development Program.* Loyola University of Chicago. 1972. 32/6857.

To discover the effectiveness of programmed instruction vs. the normal lecture type instruction, a group of fast food managers were used and the managerial function of control, with special application of the scheduling technique, was studied. Programmed instruction was found to be more effective than the normal method.

Davies, Michael Martin, *A Comparison of the Effects of Sensitivity Training and Programmed Instruction on the Development of Human Relations Skills of Beginning Nursing Students in an Associate Degree Program.* Saint Louis University. 1970. 32/734.

Thirty subjects were used in three groups. There were no significant differences in measures aiming at self-actualization. Both the Sensitivity Training and the programmed groups showed several significant changes over the control group. Either training method showed promise for possible inclusion in the curriculum.

De Lorenzo, William Eugene, *The Performance-Oriented Foreign Language Methods Course: a Partially Programmed Approach.* The Ohio State University. 1971. 32/1956.

This discusses the development and implementation of a programmed segment (consisting of five basic performance skills) into a basic Spanish methods course. In this program, the students viewed tapes, videotaped their own performance, and presented their tapes for rating. When their performance was rated satisfactory they went on to the next one. The program was found to be successful in that it created more class time for discussing assigned reading materials, students could redo their unsatisfactory demonstrations, all could end up with a "satisfactory" rating on the five skills measured by the program, and the teachers were mostly satisfied with it.

Devine, Francis Stanley, *An Attempt to Increase Specific Reading Vocabulary by Means of Programmed Instruction Among Children with Impairment of Hearing.* The University of Nebraska. 1970. 31/3950.

Both traditional teaching and programmed instruction produced large gains in learning. There were no significant differences between the two methods of teaching. There was considerable variability in achievement.

DeYoung, Ronald Clair, *An Experimental Investigation of the Outcomes of Learning Gregg Shorthand with Programed Materials on the Collegiate Level.* Northern Illinois University. 1971. 32/320.

Linear programed materials were used with teacher-directed drills; a control group used only the programed text. Basically, there was no difference between the two groups. Those with prior learning did better with the experimental training. Several differences and interactions were reported.

DiMattia, Dominic Joseph, *A Comparison of Video-tape and Programmed Instruction as Training Devices to Discriminate the Emotion Commonly Referred to as Depression.* University of Massachusetts. 1970. 31/2681.

One-hundred and fourteen upperclass university students were grouped into three sections: 1) programmed instruction to discriminate emotion depression 2) videotape to discriminate emotions and 3) no training. Programmed text was more effective and less variable than the video group.

Earl, Paul Frederick, *A Study of the Relative Effectiveness of Programed Visual Materials and Non-Programed Visual Materials in the Laboratory Sections of a College General Biology Course.* New York University. 1972. 33/220.

A linear program was used with 35mm color photomicrographs, microscope slides, and both together. Three-hundred and sixty eight college students were involved in four groups. There was no significant difference on three tests, but the group using photomicrographs scored highest on all three tests; the control group, using conventional instruction, scored lowest. It was concluded a branching program would improve the experimental methods.

Eckhardt, Wymond Walter, *Learning in Multi-Media Programed Instruction as a Function of Aptitude and Instruction Rate Controlled by Compressed Speech.* University of Southern California. 1970. 31/2249.

Three-hundred Air Force men learned factual information at different rates. Ability to learn was a function of aptitude. High aptitude subjects could speed up by 40% with no loss. Compressed speech has great potential for efficiency of learning.

Eibl, Barbara Ann Hartman, *Programmed Instruction for Increasing Teacher Sensitivity to Pupil Nonverbal Communication.* Indiana University. 1969. 30/5316.

Changes in the affectivesensitivity of prospective teachers was investigated. Four programed sections were followed by five video taped sections. Two standardized tests were the measures. The experimental group did significantly better; the program was effective. Sex and socioeconomic status were not factors.

Eisman, Edward, *An Examination of the Use of Overt Responding to Programed Televised Instruction.* United States International University. 1970. 31/2249.

Four programs were used, each with different subject matter. They ranged from one to thirteen hours long. In two of the four, overt responses were significantly better than covert responses. The value of overt responses seems to be cumulative, and strongest with rote-type learning.

Emener, William George, *A Comparison of Programmed-Machine Training and Leader-Led Group Training on Interpersonal Behavior.* University of Georgia. 1971. 32/3684.

Fifty-six college students were measured on written discrimination, written communication, and constant role. Programmed-machine training was as effective as leader-led training. A video-lecture training was not as effective as the other two methods.

Engdahl, Lloyd Thelin, *The Effects of Programed Imagery and Linguistic Recoding Upon Reading, Listening, and Visual-Motor Skills in the Primary Grades.* Rutgers University The State University of New Jersey. 1972. 33/2165.

Ninety first through third graders, well above average in ability and SES, were subjects. The hypothesis was not supported that reading comprehension would improve because of the treatment. Listening skills were enhanced at the first grade level, as were visual-motor skills. Higher grade level subjects of lower ability gained more.

Fanning, Robert John, *A Study of the Efficiency of Programed Instruction Under Two Conditions of Use.* St. John's University. 1969. 31/2788.

Two conditions for learning were tested: programmed learning alone and programmed learning plus teacher interaction. Programmed learning alone tended to be more efficient. Programmed learning plus teacher appeared to result in a superior level of achievement as well as less negative attitudes about programmed learning by teachers.

Fogle, Richard Eugene, *Differentiated Programmed Learning of Fractions and Facets of Learning Aptitude of Third Graders.* University of Illinois at Urbana-Champaign. 1971. 32/5610.

Four programs were sequenced according to quantitative rules of asynchrony and synchrony as well as concept grouping and mixed order. All experimental groups gained significantly. High and low aptitude students did significantly differently. Mixed-order asynchronous sequencing was best for low-aptitude pupils, whole mixed-order synchronous for high aptitude.

Fryar, William Rufus, *Effect of Programed Instruction and Reading Level Reduction on Science Achievement of Seventh Grade Under-Achievers.* The University of Florida. 1971. 32/5059.

Two-hundred and thirty six subjects took part in the four week experiment. Those using programmed materials gained significantly more than those using non-programmed materials. There was no difference between graded and nongraded reading materials.

Fuertges, Donat Robert, *The Effect of Programmed Instruction on Selected Tennis Skills, Knowledges and Attitudes.* University of Utah. 1971. 32/1319.

Using 111 college men and women enrolled in beginning tennis, it was found that programmed instruction did not have any real effect on their learning. However, it may be as effective as the conventional instructional method. Neither method affected the students' attitudes.

Furukawa, James Mitsuo, *The Chunking Method of Determining Step Size in Programmed Instruction.* The Johns Hopkins University. 1969. *No Abstract Available.*

Gadell, Sandra Sue Park, *The Development and Testing of Programmed Materials for Teaching Phonics to Pre-Service Teachers.* The Ohio State University. 1972. 33/1562.

Twenty-eight students in a methods class were subjects using a 950 frame program. Subjects did significantly better after taking the program. The program was judged successful and valuable.

Gallacher, Clarence Davis, Jr., *The Effects of Selected Personality Variables on Concept Formation with Programed Instructional Tasks.* Brigham Young University. 1970. 31/3335.

Similar-difference judgement and concept formation were studied in four groups. Positive to negative, and negative to positive examples were given. High similar-difference judgement subjects did better with the positive to negative examples. Low similar-difference judgment subjects did equally well.

Garren, Donald Ray, *Effects on Achievement When Excerpts from Physics are Interjected into Programmed High School Biology.* Indiana University. 1970. 31/5872.

Eighty-one tenth grade biology students, first grouped by IQ, were then divided into three groups: either programmed biology alone, a biology program followed by a physics program, or a program consisting of physics interspersed throughout the biology program. An achievement test was given all students eight days later and a parallel form of retention test given two months later. It was found that having physics in their program did not significantly affect groups two and three's achievement or retention scores for factual, direct-recall biology or functional, higher-level biology questions. Groups two and three had significantly higher scores on the physics achievement subtest than group one, with group three having significantly higher scores than group two. Higher IQ level students had significantly higher mean scores than the medium or low group, though the medium group did not have significantly higher scores than the lower group. Also, on certain achievement and retention subtests, girls scored significantly higher.

Gaston, Neil A., *An Intrinsically Designed Programmed Study Guide for Contract Law: A Problem-Solving Approach.* New York University. 1970. 31/5932.

An intrinsically programmed study guide on the law of contracts was developed by using a jury of five teacher lawyers. The jury agreed as to what should be taught. The conclusion was that other areas of business law might be programmed.

Gibbs, William Eugene, *The Development and Evaluation of Programmed Instructional Materials in Beginning Bookkeeping.* University of California, Los Angeles. 1969. 31/287.

Ten high school classes used the programmed materials. There were no significant differences in class means. Lower ability students did significantly better on the programmed materials in applying concepts learned. Existing materials should be developed for lower ability students.

Glover, Mildred Williams, *An Experiment in the Use of Programmed Instruction in Elementary College Accounting.* University of Georgia. 1970. 31/5933.

One-hundred and twenty-five subjects took part for six weeks. There were no significant differences found. Each group spent equal class time, but the programmed group spent 53% less time in outside study. Further studies should employ branching or mathematics and a longer program.

Godomsky, Stephen F., Jr., *Programmed Instruction, Computer-Assisted Performance Problems, Open-Ended Experiments and Student Attitude and Problem-Solving Ability in Physical Chemistry Laboratory.* Indiana University. 1970. 31/5873.

The treatment group was 14 students. There were 33 in three control groups. Problem-solving ability was greater in the group enrolled in a lab. The programmed materials led to the greatest success. The computer reduced teacher time.

Goodwin, Robert D., *A Programed Workbook on Stereotyping: Development and Validation.* Brigham Young University. 1971. 32/3859.

The workbook taught identification of stereotyping in writing. Providing objectives was judged to be not worthwhile. A range of examples and non-examples was needed.

Graef, David William, *Effect of Feedback Variation on Achievement and Completion Time of Student Nurses Studying Dosages and Solutions in a Programmed Format.* Arizona State University. 1971. 32/3089.

A commercially available program was used. One-hundred and sixty subjects took part. Variation in feedback had no real effect on either time or achievement, and the program itself had a consistent, significant effect on achievement.

Gustafson, John Alvin, *The Effects of Programmed Instruction and Modular Open-Block Scheduling on Student Attitude Toward Physical Education.* University of Utah. 1972. 33/1007.

One-hundred and forty-four ninth graders were tested. Use of programmed instruction did not significantly improve their attitudes compared with regular teaching. The modular scheduling did not have significant improvement effect. Programmed instruction was as effective in forming positive attitudes, and in increasing motor ability and motor fitness.

Hansen, Gordon D., *Level of Anxiety Mode of Learning, and Performance: A Comparison of Programmed versus Traditional Instruction.* The University of Nebraska-Lincoln. 1972. 33/1514.

Three levels of anxiety were identified. High anxious subjects were superior with programmed instruction, and moderate and low anxious subjects were equal with each mode of instruction. The structure and the redundancy of programmed teaching aided the high anxious students.

Hartwig, Keith Eugene, *The Impact of Programed Tutoring on the Reading Achievement of Lower Achieving Second Grade Children from Low-Income Areas.* University of the Pacific. 1972. 33/1585.

One hundred and sixty-three lower achieving students were subjects. The experiment consisted of 15 minutes of programed tutoring daily for seven months. Their criterion-referenced reading achievement was enhanced, but the significance was questioned. Perceptual reasoning ability, pupil attendance, and pupil mobility were not factors.

Harwood, Frederic Lee, *A Comparison of an Individualized Remedial Reading Approach and a Programmed Remedial Reading Approach with Selected Junior High School Students.* University of Minnesota. 1969. 30/3361.

Twenty students were studied for a semester. Sullivan's programmed reading series was used. Several reading tests were used. Individualized readers did much better than control; programmed readers did somewhat better. Individualized readers were better in speed of reading than the programmed readers.

Hegstrom, William J., *Construction and Clinical Testing of Programmed Instructional Units for Very Low Achievers in Junior High School Mathematics.* University of Miami. 1971. 32/3663.

Programmed instruction (P.I.) is feasible for these students as a remediation device. Content needs to be determined empirically. Overt responses may be superior. Constructed response mode should be used. Careful pacing and supervision are needed. Modified linear (eclectic) format may be superior.

Hill, Leonard Rollie, *A Comparative Study on Immediate and Delayed Reinforcement on Programmed Instruction with Hard-Core Unemployed Subjects.* The University of Nebraska-Lincoln. 1970. 31/1622.

The group with immediate reinforcement performed significantly higher, measured by number of frames completed and number of correct responses. The immediate reinforcement group had higher gain scores.

Hiscott, Gilbert Edgar, *The Effect of a Programmed Course of Instruction on Music Educators' Knowledge of and Attitudes Toward the Use of Contemporary Youth Music.* The Pennsylvania State University. 1971. 32/6477.

Nineteen music educators with least favorable attitudes toward contemporary youth music were subjects. A five-hour linear program was used. The programmed group were significantly higher in both areas. No significance was found in the relationship between attitudes and knowledge.

Holt, Virginia Raye, *A Comparison of the Effectiveness of a Traditional Instructional Method and a Programmed Instructional Method on the Achievement of Selected Elementary Golf Skills.* The University of Tennessee. 1970. 31/4521.

One-hundred and fifty-one students were divided into six groups, three of which used programmed instruction and three were taught by the traditional method. Three different teachers taught, each one teaching one class employing each method. It was found, by using performance on a pitch-and-run skill test, that both methods were equally effective and that differences in teachers did not seem to affect the students' achievement.

Horowitz, Carol Matisoff, *An Analysis of the Impact of Guided-Inquiry Counseling and Programmed Materials with Teachers in an Elementary School Setting.* University of California, Los Angeles. 1972. 33/2105.

Some teachers met with counselors and read programmed books. Others just read the books. In-classroom behavior was then monitored. This was a valuable method to link couseling and programmed materials. Cognitive and behavioral change, and attitude change were observed and recorded following treatment. Teachers also used more positive and expectational statements with their pupils after training.

Kampwerth, Leonard Cornelius, *An Experimental Study of Programmed Tutoring for Reading Instruction of Mental Retardates.* Indiana University. 1970. 31/5888.

Programmed tutoring with a sight word vocabulary was planned in order to allow nonprofessionals to teach effectively. Six 30-minute lessons were used in the first study, twelve in the second one. Programmed tutoring was more effective than class instruction. Tutoring with class instruction was more effective, and more words were mastered than with tutoring alone.

Kaplan, Murray, *An Evaluation of the Effectiveness of Programed Instruction in Elementary Reading with Mentally Retarded Adolescents in Junior High School.* New York University. 1971. 32/5671.

One-hundred and forty-four subjects were matched. First Steps in Reading for Meaning, a linear program with 1,702 frames, was used. Immediately after, there was a significant difference favoring the programmed group; eight weeks after there was no significant difference in reading achievement. A teaching machine was used to present the programs.

Kellogg, Theodore M., *An Investigation of Performance of Students Who Complete Certain Remedial and Enrichment Activities Used in a Semi-Programmed, Individualized Seventh-Grade Science Sequence (ISCS).* The Florida State University. 1971. 32/6239.

Eighty-four students were randomly assigned to do or not do each of the first 15 excursions. Doing these excursions significantly improved test scores. However, chapter test scores were not different.

Kleinbord, Kolman Moses, *Teaching Social Reinforcement Classroom Management Skill to Elementary School Student-Teachers: A Selected Programmed Textbook Approach.* University of Miami. 1972. 33/2714.

A commercial programmed text was used. There were no significant differences found. The programmed materials did not improve the level of knowledge, nor increase the acting out of knowledge in classrooms, nor improve their attitudes toward student teaching.

Knight, Stanley Barrie, *The Significance of Color and Form Cues on the Programmed Learning Responses of Second Grade Children.* University of Oregon. 1971. 32/5107.

Forty subjects took a ten session programmed unit on nouns and verbs. Half the books had built-in form cues, half had color cues. Subjects using the color cues had a slightly higher mean.

Koerber, Leonard George, *Attitude-Achievement Interaction: A Scale of Attitude Toward Programmed Instruction Applied in a Differentiated Verbal Learning Task.* Indiana University. 1970. 31/2738.

An attitude scale was developed and then used with 192 graduate education students at Indiana University. Half received instructions in programmed form, half in paragraph form, followed by a learning task of random order, alphabetical order or hierarchical order. Subjects using hierarchical order did significantly better.

Krautheim, Daniel, *Visual Embellishments in Programed Instruction: Their Effects on Immediate and Delayed Recall of Factual Knowledge and Performance of a Graphic Skill.* Indiana University. 1971. 32/1398.

There were 65 college students as subjects. The program had 118 panels and 13 full-page black-and-white illustrations. No significant difference was found. Students speaking English as a second language tended to take less time with the illustrated versions.

Lahey, Victor Michael, *A Comparison of Programed Inductive versus Deductive Instruction of Selected Phonic Generalizations for Second-Grade Students.* University of Georgia. 1970. 31/3783.

Seventy-eight students were taught in six groups. Results showed no significant differences between the two teaching methods. Four generalizations were taught, one each week.

Landsaw, Floyd Allen: see Projected Materials: Motion

Lange, Robert Raymond, *A Study of the Effects of Backward Prompting in Programed Instruction.* New Mexico State University. 1969. 30/3194.

Backward prompting frames presented the response blank before the cues. One-hundred and twenty-nine college students got either zero, 20 or 40% of the frames backward prompted. Those with 20% had significantly lower scores than the zero or 40% groups. There were no differences in reading rates nor error rates.

Larson, Paul H., *The Effect of Programmed Materials Used in an Individual Method on the Self Concept and Adjustment of Adult Basic Education Students.* University of Wyoming. 1971. 33/137.

Thirty-nine adult basic education students participated. A programmed Self Improvement Guide was developed. Results were measured by Bill's Index of Adjustment and Values. No significant differences were found on main effects of the pre-post test. Significant interactions were found on acceptance of self and ideal self variables.

LaSalle, Arthur James, *The Effects of Encounter and Programmed Group Treatments on Self-Concept.* State University of New York at Albany. 1970. 32/1857.

The Tennessee Self-Concept Scale and the Sixteen Personality Factor Questionnaire were used. Seventy-five volunteer undergraduate students were used. Using two standardized procedures (Encounter-tapes for Personal Growth and A Basic Course in Interpersonal Relations for Small Groups), a placebo group which used an article "Learning to be Free" and a control group, self-concept scores and also their relationship to personality characteristics were compared. No statistically significant results were found.

Leary, James William, *The Effect of Varying Schedules of Knowledge of Correct Response in Programed Instruction.* University of Southern California. 1972. 33/2078.

Four schedules of knowledge of correct response were used: 100%, 67%, 33%, and 0%. Four groups of 26 fourth graders were subjects. There were no significant differences among the variables. With subjects of IQ under 100 there was some value in having knowledge of correct response, however.

McHaney, John Howard, *An Experimental Study in the Use of Programmed Instructional Materials in Business and Economic Statistics I at Auburn University.* Auburn University. 1970. 30/4877.

Three teachers had control and experimental classes, about 180 subjects total. There was no significant difference between all experimental and all control groups, nor between the two groups of each of the three teachers. One teacher showed better proficiency with the traditional teaching method, however.

Mann, Theodore Henry, *Fundamentals of Piano: A Programmed Approach.* Wayne State University. 1972. 33/2079.

Community college teaching, using electronic keyboards, was tested. In general, the programmed approach was successful. Subjects completed the work at criterion level in a satisfactory time limit.

Marshall, Gail, *The Development and Evaluation of a Programed Supplementary Guide for Selected Topics in High School Biology*. The University of Florida. 1970. 31/5875.

Four tenth-grade biology classes were used for this study; one-half used the programmed text and one-half used a more conventional method. Through gain scores, midterm and final examination scores, there was found to be no distinct advantage in using the programmed text. However, it was useful and liked by the students.

Metcalf, Richard Jay, *A Study to Compare the Effectiveness of a Programmed Linguistic Spelling Kit with Traditional Methods of Teaching Spelling to Functionally Illiterate Adults in Correctional Institutions*. The Florida State University. 1971. 32/6083.

This study, performed over a ten-week period, showed that although it was not statistically significant, the group being taught using the programmed method did have higher achievement in spelling. Neither reading vocabulary achievement nor reading comprehension were statistically affected by the programmed method. It was concluded that a broader population, encompassing functionally illiterate people outside of correctional institutions, including women, be used and further research, as the increase does show promise for the use of a programmed kit.

Moegenburg, Louis Arthur, *An Experimental Comparison of Programed Instruction versus Video-Tape Television in Teaching Selected Orthographic Projection Concepts*. Texas A&M University. 1969. 30/4802.

A college freshman drafting course was taught via programed instruction, both with and without the teacher present, and via videotape. There was no significant difference between programed methods, and a significant difference between TV and programed teaching. Greatest gain from pretest to posttest correlated with higher ACT mathematics scores. Students preferred programed instruction over videotape presentations.

Moody, John Charles, *The Effects of Linear and Modified Linear Programed Materials on the Achievement of Slow Learners in Tenth Grade BSCS Special Materials Biology*. University of Virginia. 1970. 31/4578.

Modified programs had remedial terminology branches, relationship remedial branches, or both branches. Two-hundred and six subjects were used. The most effective were the modified linear with terminology and with terminology/relationship branches. Several causes of error rates were identified also.

Murphy, Harry James, *The Effects of Types of Reinforcement, Color Prompting, and Image Size upon Programmed Instruction with Deaf Learners*. University of Southern California. 1970. 31/2742.

Eighty deaf learners were grouped into four sections. Results indicate no significant difference between various methods of reinforcement. Immediate knowledge of results does not appear to be necessary for learning to recognize a new word.

Naroff, Arnold, *A Programed Occupational and Educational Guidance Information Unit in Industrial Arts Metalworking: The Development of a Programed Unit of Instruction in Occupational Information and Educational Guidance for Ninth-Grade and Tenth-Grade Students in Industrial Arts Metalworking Classes in the Public Secondary Schools of the City of New York*. New York University. 1971. 32/2456.

This discusses the objectives of the programmed unit, how it was developed, how it was tested, and results. A survey of students showed the majority found it easy to understand, interesting, enjoyable, and with all the information they wanted on occupations. It also seemed to increase their interest in metalworking occupations. This thesis also discusses recommendations for some changes and further research.

Nelson, Charles Edward, *An Experimental Study Using a Systems Approach with Forms of Feedback in Group-Paced Programmed Instruction*. Southern Illinois University. 1970. 31/5274.

The responses were blinking light; confirmation lights with a slide of the item, with correct one marked; and second one above plus audio saying why the answer is correct and others are wrong. Two-hundred and sixty-five college students were in six groups. One session produced significant differences with second treatment better than third one; another session showed third treatment better than the first one.

Newmark, Gerald, *The Relationship Between Student Characteristics and Work Rate and Between Work Rate and Performance in Programmed Instruction with Two Different Subject Matter Fields*. University of Southern California. 1970. 31/1146.

One-hundred and eighteen eighth graders were given two English and two mathematics programs. Work rate was independent of the cognitive and noncognitive variables studied. Best predictor of work rate was work rate on another program; this was not very consistent. Self-pacing did not seem to accomodate individual differences, nor produce higher achievement.

Nitsos, James Louis, *The Influence of Introductory Experiences on the Cognitive and Affective Outcomes of Linear Programed Instruction.* University of Southern California. 1970. 31/4627.
One-hundred and twenty-eight college students were assigned to four groups and given a 45 frame linear program. The treatments were positively-oriented lecture, positively-oriented film, negatively-oriented lecture, and no introduction. There was cognitive gain, but affective measures were insignificant except for a lower score for film introduction.

Oberheide, Robert W., *An Evaluation of Three Instructional Procedures in Interpersonal Perception through Bullmer's Programmed Text.* Southern Illinois University. 1971. 32/5552.
Forty-five students were assigned to didactic instruction, application instruction, or the full program. There was no difference in discrimination of client affective states. The application approach is as effective, and is more economical training.

Onorevole, Richard Emil, *A Study of the Effectiveness of Having Middle-Grade Arithmetic Students Rewrite Programed Questions in Their Own Words prior to Making a Response.* Columbia University. 1970. 31/3366.
Students completing the experimental process gained 1.2 years; the control group gained .5 years grade score, a significantly different score. Rewriting the questions did not cause an efficiency advantage for the control group. Projected costs were 72% less than for conventional instruction. Students and teachers had favorable reactions.

Orefice, Dominick Salvatore, *An Experiment to Determine the Effectiveness of Programmed Instruction in Elementary Accounting.* Rutgers University The State University of New Jersey. 1971. 32/3160.
Subjects were diversified community college students. Teacher interaction does not increase learning from programmed materials. There is no significant difference between programmed and normal teaching. Programmed learning is much more efficient. High-reading-ability students excel regardless of teaching method.

O'Reilly, Robert Patrick, *The Relationship of Anxiety, Creativity, Intelligence, and Prior Knowledge of Program Content to Children's Performance with Programed Instructional Materials.* Cornell University. 1969. 30/3797.
Sixth graders were subjects, using geography lessons. Pretest and verbal IQ added to achievement; anxiety had a negative effect, as did error rate. The results had many implications for the use of appropriate models for research.

Paradis, Robert Leo, *A Comparative Study of the Effectiveness of the Cross-Media Approach, Programmed Text, and Conventional Method for Teaching Air Force Manual 50-14, Drill and Ceremonies.* Texas Tech University. 1969. 30/3200.
The cross-media group used 16mm, film clips, slides, and programmed textbooks. The conventional method was significantly poorer than either experimental method.

Paulson, Casper Ferdinand, Jr., *Research on Programmed Dental Instruction.* University of Oregon. 1971. 32/5045.
A large-step linear program was constructed on dental anatomy. There was a significant difference favoring the programmed instruction. Students accepted this mode of training.

Peightel, John Walter, *The Development and Comparison of Two Recorded Programed Techniques in Teaching the Beginning Trombone Student.* The Pennsylvania State University. 1971. 32/2555.
This study used three groups, one which first heard a recorded model (prompting sequence), then played (while recording their playing), and then heard their playback. The second group played first, heard their playback, and then heard the pre-recorded model. The third group did not hear the pre-recorded model (control group). Some of the findings were that the prompting sequence proved most effective, that the beginning student benefited most from having a model, and that the students had a favorable reaction to the program.

Perkins, Wilmert Earl, *The Development and Evaluation of Programed Punctuation Materials for Secondary School Transcription Classes.* University of California, Los Angeles. 1970. 31/4043.

A program takes about six hours to review 27 rules of punctuation and their application in business writing. Three-hundred and eighty-nine high school pupils were subjects. The programed material was over twice as effective as conventional teaching. Typewriter response was not better than pen response and took more time.

Phillips, Thomas Gordon, *A Comparison of the Effectiveness of a Programmed Text and a Computer Based Display Unit Media in Teaching Fortran IV.* University of Missouri-Colombia. 1971. 32/5009.

Students using the programmed text made significantly fewer errors. There was no difference between the two methods of teaching in other areas, including attitude.

Pierce, David Randall: see Audio

Porreca, Anthony Gabriel, *A Comparison of the Effectiveness of an Overhead Projector Presentation and a Programmed Textbook Presentation in Economic Education.* Boston University. 1971. 32/1988.

Two-hundred and fifty-seven tenth grade students were involved. One group received programmed instruction, the other overhead presentation. Programmed instruction took six weeks and overhead instruction seven weeks. Recommendations are that programmed instruction should be used more intensively, specifically with students of higher reading comprehension, speech, mental ability, and listening comprehension. Students with low reading comprehension should receive visual input. Materials should relate to students' ability levels.

Portnoy, Alan Lester, *Programmed Instruction Techniques vs. Standard Lecture-Demonstration Procedures in the Teaching of Liver and Muscle Enzymes in Clinical Pathology.* New York University. 1970. 31/2208.

Two classes in different years of medical school were subjects. There was no significant difference in learning between the two methods used. The programed text could be used with equal results to allow individualized teaching, without an instructor.

Pressman, Robert Martin, *An Investigation of the Effect of Feedback Used in a Programmed Video-tape Simulation Exercise Designed to Train Teachers to Recognize the Appropriate Moment of Reinforcement.* Syracuse University. 1971. 32/1387.

Fifty-one in-service teachers, divided into three groups, viewed 11 videotaped sequences of two hyperactive boys and signaled anytime they found an appropriate spot where they wanted to change the child's behavior. Group 1 was given no feedback, group 2 was given an intermediate level of feedback, and group 3 was given a high level of feedback. After completing this, all viewed (without feedback) another segment on a hyperactive child and five sequences on a withdrawing girl to measure transfer. All groups' performances were measured and groups 2 and 3 were found to have a greater frequency of "on time" responses at the .05 level, but the difference between groups 3 and 2 was only at the .15 level.

Prickett, Gary L., and Butts, Franklin Eugene, *The Effect of Audio-Tutorial and Programmed Instruction Laboratories on Achievement in Accounting Principles.* University of Northern Colorado. 1969. 30/4060.

See Butts, Franklin Eugene for abstract.

Ralph, Mary Alice Jackson, *Programmed Learning in Counselor Education for Development of Affective Sensitivity.* Indiana University. 1971. 32/1281.

The General Relationship Improvement Program was used with 34 subjects. There was a tendency of higher scores, but not significant. In general, the program did not appear effective in developing affective sensitivity.

Rasheed, Robert Nadeem, *The Relationship between Factors of Personality and Academic Achievement in a Programmed Learning Situation among College Students.* Auburn University. 1969. 31/1646.

Eighty-one students in astronomy were the experimental group. The 16 Personality Factor Test was used. Personality factor A (Sizothymia) was the best predictor of success; factor B (intelligent, abstract-thinking) was the second best. Factors A, B, M, O, and Q_3 *were the best combination (M-Imaginative, O-Self-assured,* Q_3*-Undisciplined, self-conflict).*

Reed, Jerry Franklin, *The Relative Effectiveness of Programmed and Conventional Textbooks as Supplements to Classroom Lecture in the Teaching of Elementary Modern Mathematics.* Mississippi State University. 1971. 32/1989.

Subjects (undergraduate university students in a mathematics for teachers course) were divided into pairs matched by sex and initial achievement (lower, middle, upper) and the effectiveness of the two methods was measured on a post-test at the end of the semester. There was found to be no statistically significant difference when classified by means of instruction, sex, initial achievement, or by both sex and initial achievement.

Richards, Kenvyn Barrett, *A Comparison of the Effects of Verbal and Verbal-Manipulative Forms of Programed Instruction in Teaching Measurement Skills to Sixth Grade Pupils.* University of Maryland. 1970. 31/5818.

Seventy-two pupils were assigned to four experimental and 2 control groups. Subjects using the 2 treatments had significantly higher post-test and retention test scores than the control group. Pupils using the verbal program required significantly less time for completion.

Roach, Donald Wycoff, *The Development and Evaluation of Programed Instruction to Facilitate Upper Elementary School Children's Aural-Visual Perception of Music Notation.* The Pennsylvania State University. 1970. 32/1344.

Program content was based on rhythm and melody expectations. It was a visual text and a piano recording. There were 430 main frames and 50 additional practice frames. There were 15 lessons, averaging 35 minutes each. There were significant gains in learning. The program was considered valuable as a supplementary tool.

Ronshausen, Nina, *A Comparison of the Effects on Achievement and Attitude of Two Methods of Tutoring First-Grade Mathematics in the Inner-City: Programed vs. Directed.* Indiana University. 1971. 32/4494.

Tutoring was done by paraprofessionals for 15 minutes daily for a school year. Directed tutoring was better than programed tutoring, which was no better than just the daily instruction. Neither tutoring method increased positive attitudes toward mathematics.

Rubin, Eugene Douglas, *Answer Availability and Answer Observing in Programmed Instruction.* The University of Michigan. 1970. 32/1345.

Forty university students participated in this study. Group One had the answers available after each of the three programmed sessions, group two had the answers after the first and third sessions, group three had them after the second session, and the last group had two programmed sessions with no answers available after them. Whether the students really observed all the answers was possible to measure since they had to use a special pen to make the answers appear. It was found that having the answers available gave subjects higher post-test scores, but mostly on those items identical to those on the program. Subjects did not look at all the answers when available; usually they only looked at ones they answered incorrectly.

Sagan, Leon Francis, *The Development and Validation of a Programmed Text for Collegiate Remedial Trigonometry.* University of Maryland. 1971. 32/2924.

Forty-six subjects were weak in mathematics. The 90-90 Skinnerian-program criterion was more than met (90% of the subjects performed at a 90% success level.)

Saltmarsh, Robert E., *Development of Empathic Interview Skills through Programed Instruction.* Indiana University. 1969. 31/5137.

The program was designed to improve skills at identifying various verbal components of empathic functioning. Five subconcepts were programmed. A two-hour audio tape was also used. The experimental group did significantly better, both on a post test and the Michigan State Affective Sensitivity Scale.

Scherman, Avraham, *The Relative Effectiveness of Prose Text, Linear Programmed Instruction and Branching Programmed Instruction in Teaching Counseling Theories.* Michigan State University. 1972. 33/2113.

Ninety-one graduate students were assigned to the three groups. The prose text group did significantly poorer. Attitude differences varied by sex. Programmed instruction appeared promising in counselor training and deserves further research.

Schnur, James Oliver, *A Study of Programed Instruction and Teacher-Taught Modes and Initial Long Division Achievement of Children Classified According to Their Conceptual Tempos.* State University of New York. 1970. 31/1696.

Eighty-one third graders were tested. Modes were reflective, impulsive, and neutral. Tempo variables were latency between stimulus and response, and number of response errors. Instructional mode differences were significant, conceptual tempo differences were not.

Seal, Michael Ronald, *An Experiment to Compare Student Achievement in Beginnning Welding When Taught by Lecture-Demonstration Versus Modified Programed Instruction.* Texas A&M University. 1969. 30/4803.

Programed instruction and single concept films were used to test the teaching of a highly manipulative skill without direct teacher help. 138 college freshman with no welding experience were subjects. There was no significant difference in five measures of performance, and in two measures the experimental group did better. Students preferred the programed method.

Seaquist, David Lowell, *An Investigation of the Effectiveness of a Programmed Interpretive Guide to the Strong Vocational Interest Blank.* University of Minnesota. 1970. 31/3278.

Seventy-seven college males got SVIB profiles in either conventional or programmed format. There was no overall difference in the two presentations. An application test, ability to apply the information, favored the traditional presentations.

Shapiro, George Malcolm, *A Programmed Learning Approach to the Modification of Disruptive Classroom Behavior.* University of Utah. 1970. 31/3970.

A programmed book was developed to teach behavior modification techniques to teachers. Each teacher had a selected disruptive child. The book was the investigator's only contact with the teacher. Although the goals are obtainable, this study did not achieve them. There was some evidence of benefit.

Sharon, Jared Bear, *An Experimental Evaluation of Programed Instruction as One of Two Review Techniques for Two-Year College Students Concerned with Solving Acid-Base Chemical Equilibrium Problems.* University of Southern California. 1971. 32/2508.

Eighty-one average college students were given six hours of lecture. Forty-one were assigned a 131 page branched program. Experimental students were significantly higher in performance; the program was of benefit for all students using it. On final exams there was no experimental group gain over the control group.

Sherwin, Mark Robert, *A Comparison of Criteria Utilized by Companies Publishing Elementary Programmed Reading Materials and Educators' Opinions of the Proper Criteria.* Brigham Young University. 1972. 33/2088.

Directors of elementary reading, familiar with programmed reading materials, were the educators. 17 of 28 items showed a significant difference between the 2 groups' opinions. Publishers were unresponsive to educators' opinions in format and manner of eliciting responses, reporting on the materials' effectiveness, and updating.

Smith, Chauncey William, *Confirmations and Consequence Management in Programmed Instruction.* University of Miami. 1971. 32/6227.

Forty-eight college freshmen used programmed physics materials. There was definite superiority for programs with confirmations available or no confirmations, but consequence-contingencies added. Error rate was controlled by the presence of confirmations and consequences.

Smith, Darrell Lee, *An Experimental Comparison of Programmed Instruction and Lecture-Demonstration Methods of Teaching Descriptive Geometry.* Texas A&M University. 1969. 30/4804.

Five hundred seven students studied three randomly selected units of the course with programmed booklets. There was no significant difference in learning. Best use of the materials seemed to be as a supplement to the regular teaching. Both faculty and students liked this usage.

Sporborg, Anthony, *An Experimental Study of the Effect of Programmed Materials on the Divergent and Convergent Test Scores of Sixth-Grade Students in a Suburban School System.* New York University. 1970. 31/3355.

Sixteen 40-minute sessions using programmed materials were given to 53 students. Subjects' divergent thinking scores did not improve. Neither did convergent thinking scores. Sex was not a significant differentiating factor. Divergent thinking ability changes were not related to changes in convergent thinking scores.

Stedman, Carlton Herman, *The Effects of Prior Knowledge of Behavioral Objectives on Cognitive Learning Outcomes Using Programmed Materials in Genetics.* Indiana University. 1970. 31/5880.

A 93-frame program was used with 144 subjects. One group had non-behavioral objectives, two groups had differing behavioral objectives inserted in the program. There were no significant differences found. Mental ability and motivation significantly affected achievement. There was a significant difference between test scores showing comprehension and those showing application.

Strickland, Winfred Randolph, *A Comparison of a Programed Course and a Traditional Lecture Course in General Biology.* University of Southern Mississippi. 1971. 32/2510.

This made a comparison between the two methods of learning as far as achievement (using ACT levels), reading levels, and the effect of the two teaching methods on students' critical thinking, on their attitudes toward biology, and their motivation. Two general biology classes on the junior college level were used as subjects. Biology Achievement improved significantly for those on programmed instruction. Also there was some indication that instructional methods may influence students' attitudes towards biology. The other three items did not seem to be affected by instructional methods.

Taylor, Gary Royal: see Audio-Visual

Taylor, Ralph Clinton, *An Investigation of the Value of Drill on Arithmetic Fundamentals by Use of Tape Recordings Which Combine Techniques Developed in Language Laboratories with Principles of Programmed Learning.* University of Southern California. 1969. 30/1928.

Tapes instructed students to "think" the answer. 32 fifth graders formed three groups: programmed tapes, control, and nonprogrammed tapes. The STEP test was used. Programmed tape groups made the greatest gains, nonprogrammed groups next.

Thornton, William Terrance, *The Comparative Effectiveness of Programmed Instruction, Educational Television, and Traditional Teaching of a Unit on Human Biology in Selected Elementary Schools.* The University of Mississippi. 1970. 31/1098.

This study compared the effectiveness of programmed instruction and ETV, and the interactions. Six linear programs and six 20-minute ETV lessons were given. Traditional teaching produced significantly greater achievement than ETV alone, programmed instruction alone, or the two combined. Traditional was not different from traditional, programmed, and ETV combined.

Townsend, Ronald, *The Effects of an Advance Organizer on Learning to Graphically Analyze Straight Line Kinematics by Classroom Instruction or Programed Instruction.* The Florida State University. 1969. 30/1760.

One hundred thirty-seven college students, non-physics majors, were subjects. Those receiving advanced organizers and programed instruction did best. Both were printed materials.

Traum, Emil Frank, *An Experimental Comparison of Closed Circuit Television and Programed Learning Used as Instructional Media for the Performance of Measurements in Industrial Education.* The University of Michigan. 1970. 31/2150.

One hundred nineteen seniors were subjects. Both the TV and the programed groups did well on immediate tests. The programed groups did better on a delayed test. High and low reading ability subjects did the same. Students preferred traditional teaching. He recommends possible use of TV as a group paced review lesson, with programed materials used for self-paced lessons.

Tuber, Richard Joseph, *The Design and Development of a Programed Individual Presentation System.* University of Southern California. 1972. 33/228.

A systems approach was used to develop a "Programmed Individual Presentation" system using a double cassette system, both audio and visual (super 8mm).

Unsworth, Arthur Emerson, *A Comparison of Programed and Teacher-Oriented Instruction in Teaching Recognition of the Diatonic Modes.* Arizona State University. 1970. 31/418.

One class period per week was devoted to a programed text for the experimental group. The text had a correlated tape of 360 musical examples. Both aural and visual recognition was taught. The experimental group had significantly greater gain. The programed instruction seemed more effective than just teacher-oriented instruction.

Wade, Theodore Everett, Jr., *A Study of Secondary School Science Teachers' Perceptions of Programed Instruction.* The University of Nebraska. 1970. 31/1520.

A questionnaire was sent to 300 randomly chosen teachers. 60% returned them. About ½ had used at least one program in teaching; 90% had read at least a little about it. They did not see it as a threat to the teacher, and it could not replace much of the need for experimentation or problem solving by students. It has high potential for the cognitive domain, but less potential for more complex levels.

Wagner, Robert Michael, *Programmed Learning as a Method in the Advancement of Mental and Social Age in the Pre-School Mentally Retarded Child.* Saint Louis University. 1971. 32/4457.

Ninety subjects were tested. Training caused no significant change in mental age measurements. The traditional approach produced greater change in social age than did two experimental groups.

Waine, Sidney Irwin, *The Effectiveness of a Programmed Textbook in Teaching Selected Chemistry Topics to HighSchool Introductory Biology Students.* New York University. 1970. 31/4637.

This studied 326 students. One-third had chemistry topics taught at the same time with programmed instruction, 1/3 had chemistry taught by customary methods, and the last group had no chemistry taught them. Some of the findings were that for immediate chemistry achievement, the programmed method was superior, knowledge of chemistry did not improve biology achievement, and that taking time from biology instruction to teach chemistry topics did not lessen biology achievement.

Wallender, Arnold Lee, *An Experimental Study Comparing Three Strategies for Reducing Prompt and Knowledge of Results Information in a Programed Unit on Addition of Algebraic Fractions.* Southern Illinois University. 1971. 32/5118.

A five-part linear program was prepared. There was no significant difference in the repetitions problems portion of the test. There was a significant difference favoring those with prompts and knowledge of results gradually reduced, over those with prompts abruptly reduced.

Weber, Walter Irving, *AComparative Study of the Effectiveness of Two Methods of Instruction Utilizing Programed Materials in a College Remedial Mathematics Course.* University of Maryland.1970. 31/3911.

Behavioral objectives for the course were made. Fifty objectives were randomly selected to be in the test instrument. There were no significant differences between regular and programmed teaching. He also suggests that private tutoring was more efficient for the teacher using programmed materials.

White, Charles Colven, *The Use of Programed Texts for Remedial Mathematics Instruction in College.* Utah State University. 1969. 30/3373.

Programmed and lecture-discussion teaching had no difference in effect on test scores. Programmed students did slightly better in math fundamentals. Many programmed students finished the course earlier than the end of the quarter.

Williams, Harold Henry, *An Experiment in Programmed Instruction.* Colorado State University. 1972. 33/2700.

Business math materials were used. Achievement and attitudes were measured. One group had programmed text, another had programmed slides. There was significantly greater learning from the two programmed methods. The programmed slide group scored highest. There was no attitude difference.

Winzenread, Marvin Russell, *Consumable Materials: A Quasi-Programmed Procedure Experimentally Tested in the Inner-City Junior High School Mathematics Classroom.* Indiana University. 1969. 30/4343.

Students had oral presentation with an overhead projector, then filled in written work. Seventh grade controls did better, eighth grade experimental groups did better. There was no significant attitude improvement in the experimental groups.

Woods, William Gilbert, *Influence of Teacher-Training in Programed Learning and the Systems Approach on Teacher-Classroom Interaction.* Washington State University. 1969. 30/2894.

Flanders' system was used to evaluate audio tapes of student teachers after two methods of training in programmed learning. There was no significant increase in measured teacher-classroom interaction. The Flanders' system was a useful instrument for evaluation.

Yorke, Darryl Brian, *Effects of Feedback in Programmed Instruction.* Brigham Young University. 1972. 33/2186.

Both expository and inquisitory formats of programmed instruction showed a significant difference over the control group. The amount of feedback reduces the number of errors on a posttest.

Young, Alfred Franklin, *A Comparative Study of Supplementary Programed and Conventional Methods of Instruction in Teaching Freshman Chemistry 1015 at Oklahoma State University.* Oklahoma State University. 1970. 31/5882.

Three hundred and twenty-one freshman and sophomore students made up the sample. Achievement and reactions to the methods of instruction were tested. Although the trend favored the experimental (programmed instruction) group, there was no significant difference in the achievement tests when subjected to covariance analysis. The majority of the students had favorable reactions to the programmed material.

Youngman, Robert Carl, *A Study of the Effects of Programmed Listening Instruction on the Ability of the Counselor Candidate to Recall Content Information from Tape-Recorded Counseling Interview Segments.* Ohio University. 1972. 33/579.

The Xerox Effective Listening Program was used. Fifty-nine counseling students were tested. The program significantly improved listening performance, compared with conventional training. The skill gained seemed to transfer to counseling situations.

Zeidiker, Phillip Loren, *The Application to Above Average Sixth Grade Students of Programmed Instruction for High School Equivalency Test Preparation.* University of Illinois at Urbana-Champaign. 1971. 32/5628.

The General Education Curriculum, Career Advancement Program was tested. Five pupils used the 200-hour program over a school year. The subjects' gain over the year was significant. They were not significantly better than a control group. None has a passing average in the G.E.D. tests. However, they did use the adult level materials all year.

PROJECTED MATERIALS: MOTION

Adelman, Adrien, Jr.: see Programmed Instruction

Andrews, Charles R., *The Effect of Short-Term Interruptions Upon Factual Acquisition From Motion Picture Films Among Intermediate Elementary School Pupils.* The University of Oklahoma. 1970. 32/109.*

This tested whether interruptions of three minutes or less affected factual acquisition of fourth and sixth graders. Using 108 of each grade, the experimental group was interrupted during their viewing of each of three ten minute sound motion picture films. The students were all tested for factual acquisition and compared using grade, sex, intelligence and socio-economic status. It was found that interruptions did lower factual acquisition, with its greatest effect being on younger, lower intelligence students. Girls, especially those from lower socio-economic levels and in sixth grade, were affected more.

Atherton, Lawrence Lee, *A Comparison of Movie and Multiple-Image Presentation Techniques on Affective and Cognitive Learning.* Michigan State University. 1971. 32/3046.

Both presentations were 12 minutes and had the same sound, and were in color. 16mm film and a three screen slide program were used. Treatments were equally effective in producing attitude change and cognitive learning.

Austin, Daniel Lee, *An Experiment Using Selected Fenton Readings and Films to Identify Observable Changes in Questioning Level Attainment and Questioning Errors by Social Studies Student Teachers.* University of Kansas. 1971. 32/6258.

Five films and a text by Fenton were used. Student teachers' classroom dialogue was taped and transcribed at the start and the end of teaching assignments. Subjects did not change their level of questioning as a result of the treatment.

Boytim, James Alvin, *An Analysis of the Reactions of Selected Carlisle Senior High School Students to Filmed Simulation Materials and a Unit Designed to Improve Occupational Awareness.* Indiana University. 1971. 32/4340.

The film used has 15 vignettes pertaining to job related attitude problems. One-hundred and fifty-one students participated. Three class periods were spent viewing the film, discussing it, and using a notebook. There was a generally positive attitude toward the film. Students recommended continuing use of the program.

Bruha, John James, *Stimulus Approach Tendencies of Learners as a Factor in Evaluation of Instructional Films.* University of Southern California. 1970. 31/3406.

Capillary pulse pressure was used to measure stimulus approach tendency. Five instructional films were shown to teachers and high school students. Teacher and student ratings were independent. Pulse pressure does differentiate between psychophysical responses to various scenes in a film.

Carlyle, Melissa Meythaler, *Comparison of Methods of Using Film Loops in Job Training of Educable Mentally Retarded High School Students.* University of Southern California. 1969. 30/4133.

Film, demonstration, and both together were tested. Silent 8mm film was used. The subjects learned equally well with each method. Immediate learning and retention were measured.

Castelli, Francis Anthony, *The Effects Upon Critical Thinking Ability and Processes Skills of Single Topic Inquiry Films in BSCS Biology.* University of Delaware. 1970. 31/5870.

Twenty single topic films were used. The effectiveness of the inquiry method for improving the higher mental abilities was also studied. The results show that critical thinking ability can be improved using inquiry teaching, but processes skills appear non-affected by use of the film.

Cohen, Marcia Fan, *The Effects of Overt Responding and Cueing in Films Designed for Preschool Children.* University of Southern California. 1971. 32/2478.

Four super 8mm sound films were produced. Forty Headstart children were in intact groups. Overt response treatments were superior. There was no difference between

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cues and non-cues. A U-shaped learning curve was found during the first viewing. Up to four simultaneously presented visual-verbal cues can be presented to those over four years, four months age.

Cormack, Robert Bruce, *An Analysis of the Reaction of New York State Educators to Filmed Simulation Materials Designed to Improve Occupational Awareness.* Indiana University. 1970. 31/5955.

The film has 15 individual vignettes in which job-related attitude problems are presented. Seventy-two possible film users across New York state were sent questionnaires. It was concluded that the film series could be effective in various parts of New York state. Both counselors and vocational education teachers could use the films.

Cushing, Nelson Norman, *Comparison of Super 8mm Silent Film Loops Presentation versus Live Presentation for Teaching Machine Operations.* Arizona State University. 1971. 32/1316.

Fourty-six students in two classes formed four groups. No significant difference in learning was found between the two instructional methods. There was no difference between their performance of machine operations. Students preferred live presentation to film, and instructor-produced films to commercial films. The film teaching procedure was found to be valuable for industrial education.

Dennison, Bobby, *The Effectiveness of Eight Millimeter Film for Teaching Selected Electronic Fundamentals.* Texas A&M University. 1970. 32/218.

Eight films were given the subjects in addition to the conventional treatment. One-hundred and ten students participated. They had increased initial learning with films, and their retention was also superior in a posttest six weeks later.

De Oliva, Carmen LeBron, *A Study of the Effectiveness of the Biological Sciences Curriculum Study Single Topic Inquiry Films in Improving Selected Selected Abilities in Tenth Grade Biology Students.* University of Maryland. 1971. 32/3113.

Three-hundred and eighty-two tenth graders were subjects. Use of these films did not increase the learning levels. Five films were used in this study.

Dunn, M. Coletta, *Religious Education for Mentally Retarded Children. A Film Curriculum Study.* The Catholic University of America. 1969. 30/2393.

A 16 mm silent film was developed for mental ages 5-5 to 7-5. Audiotapes recorded student responses to the film. There was no significant difference between film and regular teaching on test results; other measures favored the group using the film, so it was justified and recommended.

Edwards, Ronald Kenneth, *An Experimental Study in the Teaching of Business Machines Utilizing an Audio-Visual-Tutorial Laboratory Approach with Continuous-Loop Sound Films.* Michigan State University. 1969. 31/1135.

A series of 22 8mm sound films was produced. The control group was a college class; others used films and instruction sheets individually for 10 weeks. The films were slightly superior in learning results. Student attitude was favorable, and they preferred this type of learning.

Engel, Alvin David, *Single Concept Instructional Films for use in Jewish Religious Elementary Schools.* New York University. 1972. 33/202.

Ten super 8 sound film loops were produced from excerpts of longer films. They filled a gap in films for Jewish education. The films increased knowledge of students in a pilot study. More extensive work should be done at the national level to excerpt films for Jewish education.

Eppler, Thomas Larry, *The Feasibility of Industrial Single Process Films and Informational Sheets for Relating Industry.* University of Northern Colorado. 1969. 33/4139.

Questionnaires sought data from industrial representatives and from Industrial Arts teachers. Industry is dissatisfied with the degree of industrial understanding and felt such a film could help. Teachers were also strongly dissatisfied and favored a film.

Etulain, Dan Roy, *The Development of a Handbook for the Production of College and University Public Relations and Recruiting Films including a Survey of Selected Films.* University of Northern Colorado. 1971. 32/5565.

Twenty-nine films were assessed by the writer. Useful life is about five years; average length was 24.5 minutes; 75% were color; about 9½ months was spent preparing it; most were done by professionals. The handbook prepared is for amateurs. It is a production manual and stresses technicalities of production, introduction to the various areas of production, and applications to college settings.

Fischer, David Charles, *Improvement in the Utilization of Captioned Films For the Deaf.* University of Nebraska. 1971. 32/693.

Three 16mm films were used without sound, with and without captions. Subjects were deaf students and hearing students. The results show that captions were of benefit to both deaf and hearing students, but only with simple primary level films.

George, Gerald Stephen, *A Cinematographic and Comparative Analysis of National Class Gymnasts Performing Selected Skills on the Horizontal Bar.* Louisiana State University and Agricultural and Mechanical College. 1970. 31/4517.

Analysis and comparison of four skills, and mathematical description of performance were goals. Trajectory paths were plotted on graphs from the film analysis. Highly skilled performers were found to utilize very similar motor movement patterns. Several other findings were presented.

Gray, William Albert, *An Experiment To Increase Teacher Acceptance of Students (TAS) by Means of Three Stimulus Films with and without Subsequent Group Discussion.* The University of Texas at Austin. 1970. 31/3338.

Four groups viewed three films illustrating ineffective teaching. Two groups held exploratory discussion on their personal reactions to the films. Pretest-treatment interaction effect was found. It was suggested that group discussion might better enhance the films' effect if the discussion were not held immediately following the film.

Green, James Gregory, *A Study of Expressed Behavior Changes Occuring as a Result of Exposure to Filmed Classroom Situations and T-Group Sensitivity Training.* Washington State University. 1969. 30/2880.

The experiment was done to seek alternatives to in-school observation. Several tests were given. The T-group, discussion group and in-school observation group each had some significantly greater gains. The T-group experienced greater self-understanding and relationships. The others gained more in understanding school organization.

Griffiths, Anne Marie, *Cinematographic Analysis of Selected Golf Strokes.* The University of Iowa. 1970. 31/4520.

Ten women, ages 18 to 33, were subjects. Front, side and overhead films were taken. Composite tracings were made of the body and club. Analysis was made through the use of a MPE 1 Recordak Film Reader. Several conclusions regarding golf strokes were made.

Groves, Richard, *A Cinematographical Analysis of Four Styles of the Racing Start in Swimming.* University of Missouri. 1971. 32/3075.

Sixteen subjects were filmed against a grid during five trials of the start. Films were viewed in a single-frame film analyzer. This analysis was a valid method of investigating the mechanics of the racing start in swimming. Several conclusions are listed.

Hailes, Charles William, *The Development of a Motion Picture Film for Teaching Perceptual Motor Skills Using the Zero-Angle Approach.* Pennsylvania State University. 1971. 32/2567.

A film was produced from the zero-angle teaching welding. One-hundred vocational education students participated. The film teaching was superior. This method of film seems to have advantages over face to face teaching.

Herring, George Andrew, *Improving Preparation of Teachers Through Self-Study an Experiment with Sound Film Recordings in an English Methods Class.* Columbia University. 1969. 30/1895.

8mm sound film recordings were used to facilitate self-inquiry and increase self-perception. Films were about five minutes long. A questionnaire and subjects' papers were evaluated also. Results suggest increased sensitivity to factors such as rapport, gestures, mannerisms, movement.

Higgins, Lynne Patricia, *Loop Films for Analysis of Errors in Volleyball.* The University of Iowa. 1970. 31/4521.

Loop films illustrating correct execution of skills and a teaching manual were developed. Fourteen super 8 loop films were made. Evaluation by experts indicated that these are effective teaching aids.

Hobart, Donald James, *A Cinematographic and Electromyographic Analysis of the Modifications Occuring during the Acquisition of a Novel Throwing Task.* University of Maryland. 1972. 33/182.

Underhanded ball throwing for accuracy was tested with 31 subjects. Synchronized cinematography and electromyography were used to gather data on some trials.

Hughes, James Erle, *A Comparison of Lab Method Films with Traditional Instruction in the Introductory Physics Laboratory.* North Texas State University. 1971. 32/3814.

Sound motion picture films were used; six were produced for this study. The six films substituted for conventional lab instruction for 54 students. In every case, the film group had non-significantly higher scores. Those with pior study of physics gained significantly more with film.

Huston, Richard Renyold, *The Development and Evaluation of a Simulated Film Model of Conflicting Role Expectancies in Counseling.* Indiana University. 1971. 32/4351.

Twenty vignettes reflecting common role conflicts were chosen for filming. Students, parents, teachers and administrators were evaluators of the film. Each group responded differently. Counselors need to clarify their role to these groups of people.

Johnson, Stephen, *Social Studies Educators Preferences for Film Selection Information.* Indiana University. 1971. 32/3560.

One-hundred and eight secondary teachers and supervisors ranked their preferences for film selection and utilization, and were also given a questionnaire. The results naming those components preferred by the subjects are given as findings.

Jorgensen, Layne Winslow, *A Cinematographic and Descriptive Comparison of Three Selected Freestyle Racing Starts in Competitive Swimming.* The Louisiana State University & Agricultural and Mechanical College. 1971. 32/3761.

The fastest of 25 starters in each type of start was filmed and analyzed. Progressive body patterns were made for every .1 second from the film. Trajectory paths were also analyzed. There was no speed difference among the three start styles; generally, movement patterns were the same. The grab start was simplest anatomically, but swimmers should try all three and select the one that is most economical for him.

Kinard, Jessica Andrews, *The Use of 8mm Single Concept Films in Teaching of Survival Education of Severely Retarded Children.* The Catholic University of America. 1971. 32/1365.

Fifteen experimental group subjects had a significant increase on the number of Gestalt survival concepts learned, compared with the conventional teaching group. The film group also learned the material significantly faster.

Knight, Melvin Ernest, *A Critical Documentary Film Study of the School Administrator's Role in New and Emerging Organizational Patterns and in The Operation of an Innovative Open-Space School.* Auburn University. 1971. 32/2957.

16 mm color sound film was used. It attempts to discover the actuality of these innovative administrators' roles and capture this on film.

Koolik, Murry Wolf, *A Content Analysis of Educational Films About Israel.* New York University. 1971. 32/2403.

Two-hundred and eighty-three films were analyzed. Some findings were that there was a disproportionate number of films on fund-raising and social welfare activities, an Israel course of study for American Jewish education was inadequate in scope, and some categories were not covered by films. Release dates were lacking on about half of the films.

La Follette, James Joseph: see Television

Landsaw, Floyd Allen: see Programmed Instruction

Latzke, Henry Raymond, *An Analysis of Descriptive and Evaluative Information Concerning 16mm Educational Films in Slected Serial Publications.* Indiana University. 1971. 32/5472.

Sixty-six serials were identified. They contained a total of 2,527 descriptive entries reviewing 1,966 titles, and 2,510 evaluative entries reviewing 1,949 titles. No serial had comprehensive listings of current films. Professional journals seldom have long, critical reviews. Films evaluated are usually given favorable ratings. The reviews are usually not the type of reviews that educators say they want.

Lewis, William Joseph, *A Comparison of Responses of Adolescents to Narrative and Lyric Literature and Film.* The Florida State University. 1972. 33/2221.

Tenth graders read two books paired with two films and wrote responses to them. The students made strong judging responses. Adolescents respond differently to comparable film and book material. There was a significant difference in interpretation, narration, self-involvement, and prescription.

Liao, Robert Chao-Hsiung, *A Comparative Study of the Effectiveness of 8-Millimeter Silent and Sound Single-Concept Films as Self-Instructional Devices Devices for Teaching Audio-Visual Machine Operation.* Boston University. 1969. 31/73.

Eighty undergraduates used the two film versions to learn operation of a tape recorder and a 16mm projector. There was a significant difference in favor of the sound film. Difference in complexity of the two devices led to no difference in learning use of the two machines. About 75% were in favor of use of the sound version in teaching these skills.

McLellan, Mary Isabel, *An Experiment Using Three Films in Rhythmical Gymnastics Using Hand Apparatus.* The University of Iowa. 1969. 30/3765.

A survey was used to determine desired film content. One-hundred and seventy college students were rated by judges. Films were of little overall statistical benefit. One subgroup benefited strongly. Film also increased motivation and interest and eliminated much trial-and-error learning.

Miller, Marilyn Anne, *An Investigation to Determine The Impact of Selected Findings of 16mm Instructional Film Research on the Design Criteria Incorporated Into 16mm Instructional Film.* Boston University. 1970. 31/2014.

Four primary elements used were: participation, knowledge of results, redundancy, and attention-directing techniques. Five secondary elements were: introduction, organizational outline, review, readability of film commentary, and color as a discriminating cue. Fifty most frequently used films were analyzed. Primary elements are most commonly found. Producer was the biggest variable. Incorporation of these elements in the films produce increments of learning.

Moore, Douglas Cameron, *A Study in the Influence of the Film, 'The Birth of a Nation,' On the Attitudes of Selected High School White Students Toward Negroes.* University of Illinois at Urbana-Champaign. 1971. 32/5617.

This is replication of a study done 1928-31. It updated the research techniques used. No measurable attitude change of hostility was found. It is assumed that the film has been erroneously labelled inflammatory.

Newton, Robert Eugene, *An Investigation of Image Juxtaposition in Instructional Films on Metallic Inert Gas Welding.* Texas A&M University. 1970. 31/1051.

Silent 16mm color film was made for each of three units of study. One form was linear, one was non-linear imagery. Subjects took a test, then did two welds. Both experimental non-linear and traditional linear formats were effective in presenting factual information. However, the nonlinear format took half the time, and was superior in presenting instruction on manipulative procedures.

Nix, Gary William, *The Effect of Synchronized Captioning on the Assimilation of Vocabulary and Concepts Presented in a Film to Intermediate Level Deaf Children.* University of Oregon. 1971. 32/5074.

Deaf children, ages 9-14 were used as subjects. The captioning of films was found to have a positive significant effect on the children's assimilation of both concepts and vocabulary.

Nystrom, Dennis Carl, *An Experimental Comparison of 16mm Sound Animated Films and Conventional Lecture-Demonstration Methods of Teaching Selected Units in Engineering Graphics.* Texas A&M University. 1969. 30/4802.

Four-hundred subjects were studied. The films produced greater learning and retention. Only 40% would prefer to be taught by these films. During the study there was no difference in interest levels of students.

Packer, Frederick Kay, *An Analysis of Educational Films to Obtain a Formula for Estimating the Lowest Grade Level Placement of Educational Films.* Indiana University. 1969. 30/4337.

The formula sought would indicate lowest grade level, be efficient for both consumers and producers, and be objective. The formula developed was effective for primary grades; it failed to separate intermediate and junior high level films.

Panzarella, Marion A., *A Study to Develop a Cognitive Preference Test Based on Motion Picture Stimuli.* SUNY-Buffalo. 1970. 32/101.

Fifty one minute science-oriented motion picture sequences were shown to 300 sixth, ninth, and 12th grades and they were to assign titles to each. Seven cognitive processes were defined and the students' responses were compared to these areas. A definite shift in cognitive preferences was shown between sixth-twelfth graders. It was suggested that 20 films be used instead. Also students were consistent in their preference in both title selecting tests.

Parchman, Linda L., *Cinematographical and Mechanical Analysis of the Golf Swing of Female Golfers.* The Louisiana State University & Agricultural and Mechanical College. 1970. 31/4529.

Four skilled golfers were filmed from the side, front, and overhead by 16mm cameras at 64 frames per second. Movement and timing of body segments were analyzed by use of a microfilm reader. Several findings and conclusions were given.

Parker, Philip John, *The Effect of Varying Degrees of Compression in a 16mm Sound Motion Picture Upon Information Recall.* Indiana University. 1971. 32/2918.

A randomly selected film had three compressions: every sixth, every eighth, every tenth frames removed. The degree of compression seemed to have no effect upon information recall.

Paulat, James Gustave, *The Effects of Augmented Videotaped Information Feedback and Loop Film Models Upon Learning of a Complex Motor Skill.* Stanford University. 1969. 30/3307.

The film loop model did not significantly affect learning, but the video treatment did. The skill studied was the tennis forehand drive. College men and women were subjects. Video was significant at the .001 level on a test and expert judgment.

Pernice, Susanne, *A Film on Foil Fencing: Directing and Judging.* The University of Iowa. 1972. 33/1493.

This study produced a color film to aid students and teachers in recognizing common fencing actions. There were six sections to the film. Opening and closing scenes were of fencers.

Peters, Richard Oakes, *The Utilization of Field Trips and Sound Film Simulations to Affect Student Cognition and Concept Development.* The University of Rochester. 1971. 32/3161.

Three community resource sites were filmed. Seventh graders were subjects. There was no significant difference in cognitive and concept development between those visiting the sites and those seeing the filming of the visit. Extensive screening of the Sim-Tour makes this economical.

Poole, James Richard, *Cinematographic Analysis of the Upper Extremity Movements of World Class Players Executing two Basic Badminton Strokes.* The Louisiana State University & Agricultural and Mechanical College. 1970. 31/4531.

Four players were filmed at 60 frames per second in 16mm. Side view and front view were filmed. A Recordak Film Reader was used and tracings were made to analyze the strokes. Several findings are given.

Poteet, Billie Grace Burum, *The Effect of Casual Viewing of Filmed Television Programs on Subject Preference and Achievement in Science.* University of Arkansas. 1972. 32/5112.

Forty-seven 7th grade students were tested. Twelve "Mr. Wizard" films were used. It was found that for those viewing these films, their subject preference for science increased. However, the achievement of those viewing films did not differ from those who did not. There was not found to be an overall significant correlation between subject preference and achievement.

Poteet, George Howard, *A Computer-Assisted Content Analysis of Film Criticism in Popular American Periodicals From 1933 through 1967.* Columbia University. 1971. 32/2920.

Articles were selected from five national magazines. Thirteen themes were studied. Five-thousand five-hundred and thirty-six sentences were analyzed. Three clear shifts over time were: increased interest in directors and direction, decreased interest in producers, increased length of articles on each film and decreased number of films discussed per article.

Razum, Albert Mark, *An Analysis of the Science Film.* University of Southern California. 1972. 33/2197.

Historical antecedents of the science film and trends in production techniques were traced. Most films were the expository type. There has been comparatively little change in 40 years of production. Modern theatrical production techniques should be used more.

Reid, Robert Orlo, *A Comparison of a Multi-Image and a Linear Film Format as Agents of Attitude Change.* Syracuse 1970. 31/5675.

Two parallel forms of a religious film, "That All May Be One" were tested in three different locations in Canada. In two fo the three locations there was a significant difference favoring the multi-image presentation.

Riggsby, Dutchie Sellers, *Film Production as an Activity in Sixth Grade Social Studies: A Study of Cognitive Retention.* Auburn University. 1972. 33/1083.

Film production led to no significant difference compared with assigned teacher-designed activities, student-chosen activities, and textbook teacher's guide activities. The Student Preference Inventory also found no differences.

Riley, John N., *Testing the Value of Silent Super 8mm Single Concept Loop Films as an Aid to the Acquisition of Manipulative Skills in the Machine Trades.* Rutgers University The State University of New Jersey. 1972. 33/1607.

Seventy-nine first year college students were subjects. The experimental group saw loop films during and following the lecture-demonstration period, and had free access to the films later. The loop films contributed both objectively and subjectively to learning. Students showed greater confidence when doing the skills and were less teacher-dependent.

Risner, M. Thomas Jr., *Relevance Evaluations of the NICEM Master Data Base of 16mm Educational Films.* University of Southern California. 1971. 32/677.

The relevance of subject headings to the user, and the accuracy of the descriptive statement in the NICEM catalogs are studied. User responses estimated the relevancy of film content to the descriptive statement, relevancy of the NICEM catalog headings to the descriptive statement, relevancy of the catalog headings to the film content.

Robertson, Elton Van Cleef, *A Comparative Study of Film and Film Script Presentation of Open End Classroom Problem Situations to Pre-Service and Inservice teachers.* Syracuse University. 1970. 31/5914.

Five-hundred students in elective media courses were subjects. An open-end problem film, and a written script o of the film were used. There were differences in affective reaction between film and script groups on all five film/scripts used. There was some difference between inservice and pre-service groups on four of the five film/scripts.

Sasowsky, Norman, *The Teacher as Producer of Short Films on Works of Art.* New York University. 1972. 33/506.

An 8mm film on the work of Reginald Marsh was done. Planning and production aspects were studied. It was concluded that a five minute film is a reasonable format for useful production. Amateur equipment was adequate.

Schell, William Raymond, *The Influence of the Passage of Time on Effects Resulting from Viewing Film on Drug Abuse.* UCLA. 1969. 30/4880.

The "sleeper" effect, i.e. the forgetting of factual content but retention of the opinion change, was studied. Eighth graders viewed 15 minute films. Fact, should, and would-type questions were asked later. No support was found for the "sleeper" effect.

Schwartz, Stanley, *Film Music and Attitude Change: A Study to Determine the Effect of Manipulating a Musical Soundtrack Upon Changes in Attitude Toward Militarism Pacifism Held by Tenth Grade Social Studies Students.* Syracuse University. 1970. 31/5677.

One-hundred and fifty-nine students were tested with three types of background music combined with film. The film "Vivre" was used. Music was considered to be supportive of the visual content; glorifying the visual content; contradictory to the visual content. The first two accompaniments changed attitutdes to stronger pacifism; the third score did not cause change.

Schweitzer, James P., *Peer Group Reactions to Concept Films Produced by Students and Teachers.* Auburn University. 1970. 31/6432.

Science concept films were produced by white elementary teachers, white jr. high students, and black senior high students. Three similar peer groups were used to judge expressed preferences for the films. No significant differences were expressed by the three audiences for the three films. There were some differences and additional investigation was needed.

Sommer, Seymour A., *The Use of Silent Single Concept Loop Films to Facilitate the Acquisition of Occupational Skills.* Rutgers University The State University of New Jersey. 1971. 32/828.

Forty-two low achieving eighth and ninth graders viewed three loop films. Student performance of skills, and observations by a skilled observer found students acquired significantly more skill with teacher and film than teacher only or film only. Subjects failed to gain if the film content was irrelevant to their interests. Use of films tended to lessen the need for personal aid from the teacher.

Sorenson, Don Lee, *Developing Teacher Understanding of Behavioral Counseling Through Film Models and Discussion Techniques.* The University of Wisconsin. 1971. 32/3041.

A 26 minute sound color film, "An Introduction to Behavioral Counseling" and a 21 minute film "A Behavioral Counseling Seminar" were made. Four-hundred and thirty teachers were subjects in evaluating their use. Films led to delineation of the role of the behavioral counselor. However, neither filmed nor counselor-led discussion were superior to the film model alone.

Sweeney, Thomas Joseph Jr., *Improving theSelf-Concepts of Junior High School Students Through the Use of Film and Videotape Recording.* Arizona State University. 1972. 33/2247.

A film on self-concept and video-tapes of themselves were used with 58 students. The Tennessee Self-Concept Scale was used. Identity, behavior and total positive scores areas showed change. The desired change in self-concept was not produced.

Thelen, Judith Nanette, *Use of Advance Organizers and Guide Material in Viewing Science Motion Pictures in a Ninth Grade.* Syracuse University. 1970. 31/6288.

Seven earth science films were used. Some got advance organizers five minutes prior to viewing, some got this plus guides that were discussed, some got guides only, and a control just viewed the films. Advance organizers made no difference. The guides were significant with one of seven groups. Students not using advance organizers were significantly more negative in attitude.

Troth, Marilyn Mumma, *The Relative Effectiveness of the Motion Picture and the Single Still Picture Presentation Modes in Facilitating the Perception of Dynamic Action Concepts.* East Texas State University. 1971. 32/5680.

Super 8mm film was used. Stills were single-frame enlargements from the movie. Two-hundred and ten fourth and sixth graders were subjects. Motion picture was superior. There was no significant difference among the population variables of sex, grade level, intelligence, SES.

Tullen, Colton, *Capacitor Behavior a Film and Laboratory Unit in Physics.* Columbia University. 1971. 32/5636.

A half hour two part sound color 16mm film is used with a lab guide and test. Students learned better from this teaching unit and they showed added interest in the subject.

Vento, Charles Joseph, *A Systems Approach For Automating the Cataloging and Distribution of Educational Motion Pictures.* University of Southern California. 1969. 30/4164.

Present media centers were studied by questionnaire and interview. It was concluded that data processing procedures are needed to cut costs. A four phase system was designed. They are 1) pilot use; 2) expansion, county-wide; 3) a regional system and 4) statewide use.

Ward, Robert Darryl, *An Investigation into the Use of Computer Integration of Kinematics, Kinetics, and Cinematography Data in Motion Analysis.* Indiana University. 1971. 32/6802.

Biaxial and triaxial cinematography was used. Filmed data was keypunched and analyzed by computer. Several findings are given regarding the high jump take-off.

Wiederanders, Richard A., *Effect of Brightness Levels on Visual Message Reception From Classroom Films.* The University of Iowa. 1969. 30/2919.

Room and screen brightness levels were tested. Three film tests were used. Viewing angles greater than 40° decreased learning scores. Other lighting variables were not significant.

Weintraub, Royd Lynn, *The Motion Variable in Film Presentation.* University of Southern California. 1971. *No Abstract Available.*

Wells, Russell Frederick, *A Study to Determine whether General Concepts Which are Commonly Taught By Motion Pictures can be Learned as Effectively by Sequential Still Photographs During Traditional Versus Self-Paced Study Periods.* Purdue University. 1970. 31/5226.

College botany students were subjects. Six groups viewed visual materials by three modes-motion pictures, slides, and sequential still photos-during either traditional or self-paced study. For concepts involving time, motion pictures were superior. For motion concepts, motion pictures and slides were superior. Students preferred movies. Learning did occur with all modes of presentation.

Wheeler, Harold Howland Churchill, *A Comparison of Performance by High School and Junior High School Educable Mentally Retarded Students on on Two Versions of a Film.* University of Oregon. 1969. 30/4883.

Two existing films were re-narrated for EMR students. One was a 10 minute film, one 16 minutes. They were shown a week apart in regular classes. There was no significant difference between the sound tracks in test results.

Wight, Warland Davis, *The Relevance of Selected Theories for Developing Systematic Research on Film Communication.* University of Washington. 1970. 31/5050.

Research since 1950 was surveyed. Problems found were: variables were not systematically investigated or basic enough to produce significant differences or generalizable conclusions; research was unable to produce a defensible set of principles describing the effects of film. A system of film research was developed based on film as a perceptual phenomenon.

Wiley, Don Del Marr, *The Effects of Various Rates of Reverse and Slow-Motion Projection on the Acquisition of a Film-Mediated Performance Motor Task.* University of Washington. 1970. 31/5050.

Three rates of projections were used. One-hundred and eighty university students were subjects. Six frames per second was significantly better than 12 or 24. Forward was superior to reverse projection. Six and 12 frames per second was superior to 24 when shown in reverse.

Wilson, Judith, *A Cinematographical Analysis of Selected Sprint Starts in Track for Women.* University of Minnesota. 1972. 33/1500.

Six types of sprint starts were investigated. Eight subjects performed all six starts 10 times each on film. Projected images were analyzed. The rocket start and the bunch start were superior to the medium start. Physical positions were also analyzed.

Wolfe, James Madison, *Utilization of the Single-Concept-Sound Film in the Graphic Arts to Assist Students who have Reading Comprehension Problems.* East Texas State University. 1970. 32/278.

Seventy college students were subjects. Four single-concept sound films were used in the experimental group, and a textbook by the control group. The film with sound was as beneficial as the textbook to aid students with difficulties comprehending printed materials. The film group also retained the learning more, as measured on a two weeks delayed retention test.

Wolff, Harry Ludwig, *A Study of the Use of Filmed versus Live Classroom Observations in Arithmetic Content - Methods Classes at Wisconsin State University.* University of Kansas. 1969. 30/5331.

The 10 film series, Mathematics for Elementary School Teachers was evaluated for use in pre-service teacher training. One-hundred and twenty-five students participated. This training was equally valuable as conventional training.

Woodman, Charles Austin, *The Influence of Selected Physical Science Study Committee Films on Certain Learning Outcomes.* Boston University. 1970. 31/2211.

Four-hundred and eighty-six students in nine high schools were studied. Three groups were used: one saw PSSC films related to the PSSC achievement test questions, one saw PSSC films which were unrelated to the test questions, the last group saw no films. The films, whether related to tests or not, did not affect their scores on the tests. In fact, those students who viewed no films had higher scores, but it was felt this was due to their overcompensatio and more effective use of class time. Recommendations for how the films might be used were given.

Zacher, Leroy Louis, *A Comparison of 'Parts' Versus 'Whole' Through the Medium of Motion Picture.* East Texas State University. 1971. 32/5120.

Subjects were students from second to 10th grade and college freshmen. There was found to be no significant difference in learning with either the "parts" approach or the "whole" approach in assembling puzzles. However, there was some (though not a significant) difference between the groups' scores, with the difference being greatest at the lower grade levels and least at the higher levels, suggesting that the "whole" approach is desirable for the younger children.

Zerbe, Anna Jane, *A Cinematographic Analysis of Two Hand Positions in Field Hockey Drives for Novice and Advanced Players.* Temple University. 1970. 32/1327.

Data was filmed with each subject being filmed at least 20 times. Two electric cameras, one overhead and one sideview, were synchronized at 128 pictures per second. Analysis determined that each hand position works equally well.

Zimmerman, Henry, *A Comparison of the Effectiveness of Using Single-Concept and Multi-Concept Films in a Self-Instructional Program with Lectures Reinforced by Full-Length Films and Lectures only in Teaching a Unit in Introductory Chemistry in Community College.* New York University. 1972. 33/1545.

Five full-length films and 10 single-concept films were chosen for the film program. Methods were film program only; lecture-film; lecture only. The film program treatment group scored higher on achievement, retention, and attitude post-tests. There was a positive relationship between achievement and attitudes.

PROJECTED MATERIALS: STILLS

Bendixen, Joe Francis, *Experimental Evaluation of the Effectiveness of Projected Transparencies on Instruction in Vocational Agriculture.* Iowa State University. 1969. 31/692.*

Four units of instruction taught for 14 days were used in 12 high schools. The study found higher mean scores for those students using color transparencies and those using mixed transparencies. There was no difference between the two types of transparencies.

Clark-Jones, Beatrice, *An Appraisal of the Treatment of Black Americans in Selected Elementary School Social Studies Filmstrips.* Michigan State University. 1971. 32/2903.

Forty filmstrips with at least one frame on black Americans were appraised. There was a significant relationship between filmstrips fostering pluralism and the number and percent of blacks. Multiple occupational status shown in the strip led to higher acceptability ratings. Only six filmstrips were identified as fostering the concept of a pluralistic society. Out of 900 filmstrips examined, 89 had at least one frame with blacks.

Flanigan, Eleanor Jean, *The Effectiveness of Overhead Transparencies and Application Exercises for Teaching Alphabetic Indexing Rules.* Temple University. 1972. 33/1601.

Sixty-eight 12th grade girls in a records management course were subjects. Commercially developed transparencies and specially developed ones were used. Overheads and application exercises were as effective as textbook and workbook. The experimental group completed this work in 20 periods; the controls took 26 periods.

Golding, Eugene Boyd: see Television

Haith, Dorothy May, *A Content Analysis of Information About Educational Filmstrips in Selected Periodicals.* Indiana University. 1972. 33/2401.

Out of 4,580 reviews, 4,190 were descriptive and 390 were critical. Of 10,700 filmstrips reviewed, 9,182 had descriptive reviews, 1,518 had critical reviews. Over 40% of the content descriptions were two or three sentences long. Twenty-seven percent gave prices. Five of 25 editors of journals had written policies. Reviews are usually favorable.

Hoehn, Robert Elton, *The Comparison of Audio-Tape and Slide-Tape Presentations in Classroom Simulation.* The University of Arizona. 1970. 31/2230.

Each program had 60 sequences written at the secondary level. Both methods produced changes in responses. Use of only tape is adequate to produce a significant change. The training was favorably received.

Kochevar, Robert Eder, *A Comparative Study of Filmstrip Utilization with Educable Mentally Handicapped Students.* University of Northern Colorado. 1972. 33/631.

Methods were: A) Filmstrip-discussion-demonstration-filmstrip; B) filmstrip-filmstrip-discussion-demonstration; C) discussion-filmstrip-demonstration-filmstrip. Two-hundred and eighteen junior high students took part. Method A was best with a written test as criterion; method B was best when a retention practical test was used. There was a significant difference between written and practical scores.

Lenchner, George, *A Study of the Effect of the Use of Overhead Projection on Achievement in Presenting Selected Topics of Circular Functions.* Columbia University. 1972. 33/1981.

Ten classes with 201 11th graders were used. Twenty-four of 35 measures favored the experimental group. Four of the 24 were significant at .01 level. Most of the superiority came with low mental ability students on unit tests; with high mental ability on the posttest. This method increased interest, attentiveness, participation, improved understanding, and review procedures.

McCage, Ronald Dale, *A Comparison of the Use of Slides and Models to the Conventional Method of Introducing Descriptive Geometry Concepts.* Texas A&M University. 1970. 31/5168.

Three hundred and sixty-two engineering graphics students in college were subjects. Student achievement was significantly improved. Student's ability to visualize was also significantly enhanced. Student attitude was positive. The experimental method took an average of 13 minutes longer to present.

McGuire, Gertrude Mynear, *Pacing Transcription with Shorthand Slides: The Effect on Speed and Accuracy.* The University of Tennessee. 1970. 31/4644.

Sixty shorthand slides were used at three speeds. The experiment involved 78 students twice a week for six weeks. There was no significant difference in several tests of skill. Typewriting speed correlated higher with the experimental group. Highly favorable attitudes were expressed towards use of slides.

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Morrill, David, *A Study to Determine the Effectiveness of Selected Graphic Arts Filmstrips for Teaching Lithography Units with Implications to Develop Additional Units.* Texas A&M University. 1970. 31/5168

One-hundred and forty-six students in two junior colleges and two colleges participated. Single concept filmstrips were developed. There was no significant difference in initial learning or in retention. There was stronger positive teacher response to a color version than a halftone version of the filmstrip.

Madsen, Russell Duwane, *The Effect of the Use of Overhead Transparencies on Achievement in High School Bookkeeping.* University of Minnesota. 1969. 30/4333.

One-hundred and fifty-one students in six classses in three high schools were subjects. All used the same text. Eighty transparencies were prepared. The experimental group was significantly higher in achievement. Girls achieved higher than boys and excelled even more with the experimental teaching. This method was best for middle ability boys and somewhat better for high ability boys and low ability girls.

Porreca, Anthony Gabriel: see Programmed Instruction

Roach, Michael Nathaniel Hugh, *The Relationship of a Model of Audiovisual Perception and a Selected Communication Model as a Function of a Filmstrip Design.* North Texas State University. 1970. 31/1694.

A checklist, "Evaluation Form for Examining a Filmstrip" was developed from Berlo's interpreter model, Boring's characteristics of good form, and the life space of the individual. The checklist allows a check of individual frames as well as an overall filmstrip.

Schivera, Howard Wesley: see Television

Schoepp, Leonard Henry, *The Effect of the Redundancy Level of Three Experimental Slide Shows on the Amount of Visual Information Received by Fifth Graders.* The University of Iowa. 1971. 32/1200.

Slides had musical accompaniment. Photographic techniques were used to build in the levels of redundancy. Fifth graders can handle the formal relationships of fast moving images. There were some differences in student performance. Greater and lesser degrees of redundancy can be built into a slide presentation.

Ulmer, Francis Charles, *An Investigation of Physics Instruction Through Overhead Projection of Experiments and Demonstrations.* Arizona State University. 1972. 32/6826.

Ten experiments were developed using overhead projection. The control group showed slightly significant improvement over the experimental group. In most cases, it is possible to teach physics experiments and demonstrations using overhead projection.

Warzecha, Everett Raymond, *An Assessment of Learning Efficiency and Effectiveness comparing Animated and Non-Animated Overhead Transparency Projectuals.* Rutgers University, New Jersey. 1972. 33/1426.

Sixty subjects were in two treatment groups with one, three, and five minutes of exposure. Animated groups were superior in both initial learning and better retention over time. Five minutes exposure was best for initial learning, three minutes for retention over time. Animation improved learning, reduced time of presentation, and added interest.

Weaver, Terry Dee, *A Study of the Comparative Legibility of Projected Positive and Negative Black and White Slides.* Indiana University. 1971. 32/4259.

Thirty subjects with normal vision were used. Two sets of slides were used at three luminance levels, and five letter sizes were used in each set. Conclusions were positive slides are better at high and medium levels of luminance, negative better at low levels. Positive letters below 20/20 size can be read at higher levels of luminance; graphs and charts with fine detail should be made as positive slides.

Wells, Russell Frederick: see Projected Materials: Motion.

Wilson, Alva Curtis, Jr., *A Comparison of Two Methods of Instruction: Music Textbook and Overhead Projection.* Arizona State University. 1971. 32/1005.

Fifth graders in five schools were subjects. Three schools had three weeks treatment, two had five weeks. Overheads were made from the same text the control group used. The experimental group had higher test scores in music fundamentals. The overheads can teach more effectively and faster then can textbooks.

Winegarden, Arnold, *A Visualized Manual for Teacher and Pupil Production of Color Photographic Transparencies in Grades Five and Six in the New York City Elementary Schools.* New York University. 1970. 31/2028.

This was designed for school administrators and teachers. Pupils of this age can carry out photographic projects. Teachers are willing to work with it if given basic directives. This provides the school with resource materials of value.

Young, William Harold, *An Experimental Comparison of the Effects of a Film Slide - Audio Tape and a Printed Brochure on Factors Related to a Career in Industrial Arts Teaching.* University of Missouri. 1969. 30/3299.

Eleventh grade boys in six schools were subjects. There was no significant difference in knowledge or attitude. Both groups gained significantly from the training, and the effects were judged to be long-lasting.

Zeimet, Edward Joseph, *Use of 2x2 Projection Slides in College Zoological Laboratories as Substitutes for the Conventional Laboratory Practical Testing Method.* The University of Wisconsin. 1970. 31/5157.

One-hundred and fifty-two students participated. Two 40 question tests were prepared conventionally and on slides. There was no significant difference found in student achievement when measured conventionally or by slide format test. Attitude toward the slide test was affected by the subject matter. Students had a strong preference for the slide test in one subject area.

TELEVISION

Anderson, Jeanette E., *An Experimental Study of the Effect of Television on Pupil Achievement in Fifth Grade Mathematics.* Loyola University of Chicago. 1969.

No abstract available.

Annaratone, Frank Eugene, *The Effects of a Tutorial-Friendship and a Video-Tape Experience on Pre-Service Teachers.* The University of Tennessee. 1971. 32/4458. *

Fifty female pre-service teachers were assigned to 1) a tutorial friendship relation or a 2) videotape observation. Group One worked one hour per week with an elementary student. Group Two viewed a 20-30 minute videotape on a classroom activity. Results showed Group One more aware of an unpopular child. Group Two was more aware of the "approval" motives.

Arabia, Anthony J., *A Study of Current Trends in Portable Video Recorder and Studio Television Utilization to Provide Guides for Decision-Making in Equipment Purchase and Program Planning.* University of Pittsburgh. 1972. 33/885.

This study was done as an aid in deciding the role of TV in educational institutions' instructional programs, by studying trends in purchasing and utilization in S.W. Pennsylvania, N.W. West Virginia and E. Ohio. It showed among other things, which type of machine is used most commonly, and why, where people have purchased the wrong equipment for their needs, etc. A synthesis decision model and checklist profile is provided to serve as a guideline for school administrators.

Arbeloatiles, Rafael Celedonio, *Effectiveness of the Talkback and Group Discussion in Supplementing Educational Television in Teaching Consumer Education to Employees of Welfare Agencies.* The University of Connecticut. 1972. 33/2828.

One hundred and fifty-two subjects were in groups of TV instruction alone, TV plus a talkback session, TV and a group instruction, and all three treatments. Five 30 minute programs were aired. The greatest gain came with TV instruction, talkback, and group instruction. All four treatments were highly effective. Personal variables were not significant.

Archer, James, *Undergraduates as Paraprofessional Leaders of Interpersonal Communication Skills Training Groups Using an Integrated IPR (Interpersonal Process Recall) Videotape Feedback/Affect Simulation Training Model.* Michigan State University. 1971. 32/4932.

There were three groups, one an Interpersonal Process Recall (IPR) group, one a no treatment group, and one a group which used a traditional encounter-developmental approach. Paraprofessionals using the IPR, which included simulated activities on videotape, were more successful in training undergraduates with interpersonal skills than those using the traditional method.

Armstrong, Wayne Jackson, *The Effects of Videotape Instant Visual Feedback on Learning Specific Gross Motor Skills in Tennis.* University of Southern Mississippi. 1971. 32/5587.

This studied whether videotape instant feedback influenced the acquisition of gross motor skills (tennis), the rate of learning, form, and motivation, when compared to the conventional lecture-demonstration program. Three groups were used: 1) a standard lecture type, 2) standard lecture plus a replay each time which was observed, analyzed, and corrected and 3) standard program plus once a week a videotape replay. Though a definite improvement in skills was found, the three different treatment groups did not seem to have an effect. As far as motivation there was a significant difference between those using the standard method and those using the videotapes, but none between the two videotape groups. It was concluded that though the videotapes did not affect their learning, rate of learning or form, it also did not impede it.

Aymes, Alan, *An Examination of the Effects of Differences in Teacher Attitude Toward Televised Elementary Science Instruction on Pupil Academic Achievement and Self-Initiated Activity.* Harvard University. 1970.

No abstract available.

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Backens, Vern William, *The Effect of Teaching Beginning College Mathematics by Television.* North Texas State University. 1970. 31/5143.

One hundred and sixty students in a college mathematics class were assigned to one of four treatments: 1) a control group, 2) TV teaching plus student-assisted study periods, 3) TV teaching plus access to video replay, 4) unsupervised study and discussion. Students learned as well by TV as by conventional methods. Conventionally taught mathematics produces better attitudes toward subject and instructor.

Bailey, Therold Eugene, *Student Attitudes Toward a New Application of Instructional Television in a Computer Programming Course.* Oklahoma State University. 1971. 33/581.

This sought to measure students' attitudes toward the use of a new series of instructional TV in a computer programming course. This new series was designed to be informative and interesting. The class was given the choice of attending the TV class or the conventionally-taught class. Sixty-nine per cent became TV attenders (as determined by whether they attended the TV class more than 50% of the time). Pre and post tests showed attitudes became less negative toward the use of television.

Baker, Norman Allison, *The Effects of Differing Speeds of Videotape Feedback and Levels of Perceptual Speed on Psychomotor Performance.* University of Missouri-Colombia. 1971. 33/602.

Sixty 8th and 12th graders were tested on a simple task. Both slow motion and normal video feedback led to superior performance.

Barbee, Joel Ralph, *Job Interview Training for the Disadvantaged Using Techniques of Behavior Modification and Videotape Feedback.* University of Northern Colorado. 1972. 33/564.

Performance change was related to intelligence. This training can produce positive change, improving clients' chances of being hired. It is also a practical program.

Barnett, Isaac, *The Development and Use of a Video Tape as a Training Procedure for Michigan's Driver Licensing Personnel.* Michigan State University. 1970. 32/157.

Video tape was found to be very useful for initial training of licensing personnel, for refresher training, for personnel's self-analysis and for evaluation of the personnel by administration.

Bauer, Caroline Feller, *A Descriptive Study of Selected Children's Books and Television Programs as Supplements to Family Life Education.* University of Oregon. 1971. 32/2896.

Seventy books and six TV series were examined for relevance. Family—the books and TV series were equally valuable. Role—both books and TV present the traditional male and female roles. Some books presented "liberated" roles. Sex, reproduction books were more useful. Emotional Development—TV was in less depth. Books were also more specific.

Beck, Wesley Winchester, Jr., *The Comparative Effects of Two Methods of Recording Trial Court Proceedings Upon the Learning Achieved by University of Oklahoma College of Law Students (Videotape—Written Transcript).* Oklahoma State University. 1971. 33/512.

Eighty subjects participated. A test and a questionnaire were used. Video recordings were more effective training and educational devices than written transcripts. No attitude change toward use of TV at a trial court occurred.

Bedics, Richard A., *A Study of Self-Evaluations of Student-Teachers Through the Use of Video-Tape.* The University of Alabama. 1970. 31/5239.

Three groups of 22 female elementary education students were studied. One received special training in analysis of teacher behavior. The second and third did not receive special training. Groups 1 and 2 were videotaped three times; group 3 the first time and then the third time along. with the other two groups. Experimental group 1 seemed to develop more sensitivity to teacher behavior. Group 3 indicated more interest in personal aspects of the videotape.

Beisenherz, Paul Chalmers, *An Experimental Study of a Televised Science Series, Grades 1-4, Comparing the Quality and Sequence of Television and Classroom Questions with a Proposed Strategy of Science Instruction.* University of Washington. 1971. 32/4439.

Fifty-four classrooms, grades 1-4 were involved: 1) TV science only, pre and post TV materials provided 2) TV science and regular district science 3) TV science only and 4) regular district science only. No significance was found in mean gain scores. TV science instruction affected teacher questioning behavior.

Bell, Perry Hite, *The Effectiveness of Direct Observation in Evaluating a Videotaped Model Lesson.* Texas Tech University. 1971. 32/5080.
The purpose was to determine a difference in a model lesson as received by student teachers who had observed and those who had not observed in a classroom. The results show that videotape segment lessons can be structured appropriately for student teachers to show specific teaching strategies, behaviors, and skills in any teaching field in a variety of patterns.

Bergman, Wayne Gordon, *A Study of Video-Taped Simulation as a Teacher-Training Technique to Promote Attitudinal Change in Adult Basic Education.* University of South Dakota. 1970. 31/3252.
Video-taped simulation was used in the training of 25 people who would be teaching the under-educated adult. By using an attitude and opinion survey before and after this training, the simulation was found to have a positive effect.

Bertou, Patrick Delabry, *An Analysis of the Relative Efficacy of Advance Organizers, Post Organizers, Interspersed Questions and Combinations Thereof in Facilitating Learning from Televised Instruction.* The University of Wisconsin. 1971. 32/3084.
One hundred and seventy-six ninth graders viewed lectures. Acquisition and retention of knowledge was improved by interspersed questions, but not by advance organizers nor post organizers.

Birch, Daniel Richard, *Effects of Inquiry Orientation and Guided Self-Analysis Using Videotape on the Verbal Teaching Behavior of Intermediate Grade Student Teachers.* University of California, Berkeley. 1969. 31/1109.
Forty-eight teachers were in six treatment groups in a social science curriculum course. Guided self-analysis included 1. self-confrontation (videotape) 2. behavior coding, and 3. self-coding. Only self-coding was found to have an effect on verbal teaching behavior. Self-coding increased several positively-valued behaviors, decreased several negatively-valued behaviors, and had greatest effect on questioning strategies. These findings support the theory of Guided Self-Analysis.

Birmingham, Francis Richard, Jr., *Instructional Television Fixed Service Assessment of the Technical and Education State of the Art.* The Catholic University of America. 1970. 31/1990.
He surveyed ITFS licensees and applicants and interviewed people in the field. Failure to capitalize on ITFS's potential was caused by lack of commitment, TV as a medium confused with TV as a method of distribution, and other reasons. Administration and educational structures, not technology, will be the major factors in ITFS development.

Bloom, Sylvia Gray, *An Investigation Regarding the Effectiveness of Self Confrontation by Videotape in Changing Work Attitudes.* The University of Rochester. 1971. 32/3015.
Job interviews were taped. The counselor replayed them for self-confrontation. The experience was perceived as very desirable, but it did not change work attitudes.

Bohac, Dorothy Marie, *An Appraisal of a Television Course in Kindergarten Teacher Education.* The University of Texas at Austin. 1971. 32/6088.
A model for instruction and appraisal for a course in program development was created for kindergarten education. A televised laboratory, related readings and an analysis guide were used. Thirty-five students took part. Appraisal was encouraging and more research should be conducted.

Bolen, Patsy Jolynn, *The Effects of Videotape Feedback from Volunteer Subjects' Classroom Behavior and Expressed Attitudes Toward Teaching.* North Texas State University. 1970. 31/5241.
Elementary and junior high teachers' verbal and non-verbal behavior was studied. A pre-experiment videotape was made, eight weeks of training followed, then another videotape was made. Elementary subjects had significant change in teaching behavior in the cognitive objectives, verbal, and non-verbal expressions categories. Junior high subjects had significant difference in their total teaching behavior scores.

Brahmawong, Chaiyong, *A Proposed Plan for Establishing an Educational Television Station for Open Admission Universities in Thailand.* University of Southern California. 1972.

No abstract available.

Brantley, William E., *A Study of the Effects of Videotaping on Selected Aspects of Teacher Classroom Behavior.* Lehigh University. 1972. 32/6026.

Twenty-seven seventh grade teachers participated in a study involving cognitive and affective domain, teacher method, verbal expression, and non-verbal expression. Systematic versus non-directive viewing was the issue. Significant changes occurred in teaching methods. Strengths as well as weaknesses were discovered.

Brown, Charles Raymond, *Assessment of Television and Video-Tape Recordings for Utilization in Continuing Medical Education.* The Ohio State University. 1972. 33/1400.

Seven hundred and forty-three Indiana physicians returned questionnaires. There were demographic and professional characteristics to differentiate physicians. Continuing education with TV should be directed at specific groups of physicians. A variety of methods of continuing education is needed, and TV and video-tape are valuable methods.

Buck, Richard Rollo, *Knowledge of Mechanical Principles to Facilitate Learning a Trampoline Skill Using Television as an Evaluation Aid.* University of Minnesota. 1972. 33/2145.

Videotape playback was shown as a more effective way in which to evaluate trampoline skill than live performance evaluation for 7th and 8th grade students.

Burnham, Kent Richard, *The Effectiveness of Learning by Instructional Television in Community Viewing Centers and in the Home Environment.* The University of Iowa. 1971. 32/2565.

Two hundred and one high school students from business classes viewed instruction in their homes or in "viewing centers." No significance was found except for female students who apparently learned more at "viewing centers."

Calkins, Ronald Ray, *Cognitive Dissonance Effect on Adult Learning When Incongruous Instructors Teach Through the Medium of Television.* University of Denver. 1971. 32/193.

The instructors' uniforms (Air Force, Navy, Army, civilian business suit) were treatment variables in teaching "How to Study." Incongruent instructors did not cause differences in learning.

Campbell, Robert Lee, *The Effects of Videotaped Instruction on Cognitive and Affective Learning of College of Agriculture Students.* University of Missouri. 1970. 31/2271.

Students were taught by lecture, demonstration, or student participation. This was videotaped and replayed for three TV learning groups. Method of instruction or style of presentation were not significant for cognitive nor affective learning. Students learning via TV performed as well as those with live instruction.

Cannon, Dean C., *The Sub-Committee on Television of the North Central Association—A History.* The Ohio State University. 1970. 31/3680.

This is a historical and evaluative study of the NCA role in TV since 1958. It also reported the current status of instructional television in the 19 NCA states and compared this with a 1958 subcommittee study of TV.

Carl, Michael Eugene, *The Self-Coding and Peer-Coding Accuracy of Student-Teachers Using Selected Categories of Teacher Talk From 'Guided Self-Analysis' and Videotape Recordings.* University of Oregon. 1972. 33/2210.

GSA coding schedules were used by self, by peers, and by experts. They were able to accurately assess selves and peers, positively and negatively, from videotaped scenes.

Carr, Norma June, *The Effect of Objective and Subjective Television Camera Treatments on the Learning of Selected Psychomotor and Cognitive Aspects of Badminton Achievement of College Women.* The Ohio State University. 1971. 32/3754.

Using three groups: 1) subjective 2) objective and 3) control, it was found that subjective camera treatment produced greater cognitive gain. Psychomotor gain is equally affected, choice of technique does not affect viewer's opinion of TV lesson or instructor, and both techniques can be used to teach badminton effectively.

Carrico, Mark Andrew, *An Assessment of Children's Television Program "Sesame Street" in Relation to the Attainment of the Program's Goals by Kindergarten Children in the Sioux Falls, South Dakota Public Schools.* University of South Dakota. 1971. 32/2297.

Students, teachers and parents were involved in this investigation. An evaluation instrument, designed from behavioral goals of Sesame Street, was developed for the children. A 22 item instrument was developed for the teachers and a 10 question instrument was used with parents of the children from the experimental group. Sesame Street had a measurable effect on all five goal areas. Four of the five were significant at the .001 level, the other at the .01 level.

Casey, Robert James, *An Investigation of the Cognitive Effectiveness of Color and Monochrome Educational Materials with Elementary School Children in Relation to the Predominant Home Television Viewing Mode.* University of Southern California. 1971. 33/1072.

This studied 2nd, 4th, and 6th graders. It was found that for 2nd graders black and white presentation was better, unless there was no narration, in which case both modes proved equally effective. For 4th graders, whichever mode they had at home proved most effective. For 6th graders, color presentation proved most effective regardless of what they had at home.

Cass, Angelica Watson, *The Role of Television in Reaching Illiterate Adults with a Literacy Program Series.* Columbia University. 1969. 31/602.

An evaluation of "operation alphabet" was undertaken. Implications are that teaching via TV should be integrated into an educational program for illiterate adults. Publicity for any program is vital and lack of motivation to learn requires further solution.

Chastain, Melvin Leon, *A Comparison of the Effectiveness of Television, Radio, and the Newspaper in Creating Public Awareness Toward Educational Television Programming.* Texas A&M University. 1970. 31/2037.

Interviews and questionnaires were used in the community. Radio was the most effective medium. Subgroups were analyzed by medium.

Church, Cary Theodore, *Effects of Individual Counseling and Video-Model Individual Counseling on the Accuracy of Self-Ratings of Ninth-Grade Students.* The University of Florida. 1969. 31/2099.

It was found through tests and two-month followups that test interpretation counseling did increase the student's accuracy as to interests, aptitudes, and abilities self-rating; however, individual counseling versus video-model counseling did not make any significant difference.

Clark, Dwight Freeman, *A Pedagogical Analysis of Selected Elementary School Science Television Programs.* Harvard University. 1969.

No abstract available.

Collie, William Edward, *The Effect of Videotape Replay on a Teacher's Self-Evaluation of His Teaching Performance.* University of Kentucky. 1972. 33/2212.

Students enrolled in an undergraduate education course rated themselves after teaching a microlesson. One important finding was that those who viewed a videotape replay of their lesson were provided with informational feedback which affected their self ratings.

Colton, Frank V., *A Pilot Study of Concept Attainment and Incidental Social Learning of Integrated and All-White Kindergarten Children Resulting from Viewing Video-taped Demonstrations by Both Black and White Children.* Wayne State University. 1970. 32/87.

Children viewed either a black or a white child in a leadership role in concept teaching. Both groups learned the concepts, but there was no change in the choice of "preferred companions."

Connolly, Charles Paul, Jr., *An Experimental Investigation of the Application of Empirical Program Development Procedure to Instructional Television Programs on Creative Problem-Solving.* The Ohio State University. 1970. 31/3681.

Three groups were used in this study. One viewed the conventional instructional TV, one the empirically-developed TV and one viewed no TV. It was found that the empirically-designed TV program did have a significant increase in effectiveness. Both TV groups increased significantly in comparison with the control group. It seemed that the use of visuals to reacting, active student response, and more creative effects produced the greater increase in effectiveness in the empirical procedure.

Coon, Robert Burton, *Two Educational Television Programs on Two Purposes of the Visual Arts in Education.* Columbia University. 1971. 32/2904.

Two TV programs were prepared. One gave background in the wide variety of perceptions possible from experience. The other looked at two people working on their art.

Cox, Kenneth Mervin, *An Experiment in Teaching Complex Motor Skills to University Freshman Male Students Using Continuous and Discrete Concept Sequences With and Without Instant Videotape Replay.* University of Washington. 1969. 30/5268.

This study was done to compare continuous concept sequencing, with and without instant videotape replay, to discrete concept sequencing, with and without videotape replay in college wrestling. It used both high and lower level physical achievers. One hundred and forty subjects were used. There was found to be no significant differences in the performance of the various treatment groups. However, it was found that those who were previously identified as having a higher level of physical achievement did perform better than those who were low physical achievers.

Crickenberger, Margaret E., *A Study of Student-Teachers' Verbal Responses to Video Playbacks of Their Teaching.* The University of Florida. 1970. 32/1376.

Video playback focuses attention on teacher behavior and pupil responses. Videotaping did not distract teachers. Three tapings and six viewings occurred.

Dasinger, James Frank, *A Comparison of the Verbal Behavior of Clients Counseled by Closed-Circuit Television and by Face-to-face Counseling Procedures.* University of Montana. 1972. 33/1431.

Each group had 20 matched clients. Three measures and subjective reactions were obtained. The CCTV counseling does not significantly disrupt or interfere with the counseling process. The production of self-referent statements by the clients is increased by use of CCTV.

Debacy, Diane Lee, *The Effect of Viewing Videotapes of a Selected Sport Skill Performed by Self and Others on Self-Assessment.* The Ohio State University. 1969. 30/2829.

This study specifically dealt with the golf swing in women beginning golf classes to see if videotape replay was effective in reducing differences in actual and self-assessed skills. For pre self-assessment, both the control group and the experimental group compared what they thought to be their swings to the viewing of four models. For post self-assessment, the control group did the same, whereas the experimental group saw a taping of their own performance followed by viewing the model. It was found that self-viewing did improve the accuracy of self-assessment. Where students erred, it was in over-assessing their skills.

DeGenaro, Arthur Paul, *Experimental Use of the Video-Tape Recorder as an Evaluative Instrument and Observational Tool in the Supervision of Student-Teachers of Physical Education.* The Ohio State University. 1969. 30/2879.

This was done to ascertain videotape's effectiveness in evaluating and observing physical education student teachers. There was found to be statistically sufficient agreement between the ratings of the student-teachers using direct observation and using videotapes to warrant the implementation of videotapes for observational and supervisory purposes.

Del Rey, Patricia, *The Effects of Video-Taped Feedback and Environmental Certainty on Form, Accuracy, and Latency During Skill Acquisition.* Columbia University. 1970. 31/3317.

Forty college women were used to determine if video-taped feedback would improve motor skills. It was found that regardless of environment, video-taped feedback improved form of movement. In uncertain conditions speed/accuracy trade-off occurred. In certain conditions, a form/speed trade-off occurred because form of response was emphasized over speed.

Dendy, Robert Francis, *A Model for the Training of Undergraduate Residence Hall Assistants as Paraprofessional Counselors Using Videotape Techniques and Interpersonal Process Recall (IPR).* Michigan State University. 1971. 32/4940.

Video-taped affect simulation films were used to train carefully selected undergraduate students to be more helping. This was done over a six month period. Early learned skills did not deteriorate. Resident assistants were taught to function at or near the level shown by experienced counselors at or near the Ph.D. level.

Di Mattia, Dominic Joseph: See Programmed Instruction

Dirr, Peter J, *A Study of the Usefulness of the Instructional Television Services of Channel 13/WNDT and Recommendations for Their Improvement.* New York University. 1970. 31/1998.
A questionnaire to teachers found that a majority used the program series regularly. Overall, average regular use was 1.8 program series per semester. Recommendations for teachers, administrators, and ITV agencies are included.

Donohue, Stephen Thomas, *The Effects of Three Video-Tape Critique Methods in Practicum Upon Prospective Counselors' Nonverbal Behavior.* New Mexico State University. 1969. 30/3721.
Thirty-one prospective counselors were used for this study. They were assigned to three treatment groups using three applications of video tape critiquing procedures in the acquisition of exhibited nonverbal behavior. In one group the counselor reviewed his own video tape and selected two minutes from each half which he felt were the most critical. The first segment he critiqued, the second the counselor critiqued. The second group had both the supervisor and the counselor critiquing the whole tape. In the third group the prospective counselors critiqued each other's. The counselors then used pupils from an elementary school as clients. It was found that though the video tapes are a valuable medium, unless a systematic attempt is made to change specific behaviors, there is no significant difference between the three treatment groups.

Dunn, Barbara Jean Staley, *The Effectiveness of Teaching Selected Reading Skills to Children Two Through Four Years of Age by Television.* University of California, Los Angeles. 1969. 31/655.
Ninety children were assigned to two groups. Results showed significant gains in a test presenting alphabet sounds and basic vocabulary. Gifted children may be found at an early age.

Durand, Henry Frank, *Teaching Listening Behavior: A Video-Tape Technique for the Improvement of Affective Discrimination.* University of Pittsburgh. 1971. 32/4942.
Video-tape replay techniques were used to teach listening skills in a short period of time. Listening behavior was taught via video-tape to an experimental group. The experimental group improved its ability to discriminate affect while the control group did not.

Eder, Michael David, *A Study of the Effectiveness of the Videotape Recorder With and Without Modeling in the In-Service Training of Teachers.* University of Maryland. 1971. 32/2941.
Change in teaching techniques and strategies of foreign language teachers was studied. Use of videotaping plus a modeling demonstration tape is significantly more effective than just use of VTR.

Eisman, Edward: See Programmed Instruction

Fellows, Marguerite Ann, *Personality Traits Related to Rating Self and Others by Viewing Videotape of a Motor Performance.* State University of New York at Buffalo. 1971. 32/770.
Ninety-nine college women took the Omnibus Personality Inventory, then performed a series of cartwheels. They rated themselves after viewing a model tape. They viewed their tape and rated themselves twice. Multivariate tests failed to find significance in personality traits tied to self-ratings and ratings of others. Four variables had univariate significance.

Fenstermacher, C. Thomas, *An Approach to Supervision Utilizing Video Feedback.* The Pennsylvania State University. 1971. 32/6034.
Thirty-six teachers and thirty-six classrooms were involved. Achievement was measured by post-test and by retention-test. Videotape feedback, with teacher self-evaluation, is an effective method of supervision when improving teaching skills basic to understanding maps and globes in grades 4,5, and 6.

Field, Hyman Harrison, *The Effect of Color Versus Black and White Instructional Television on Student Attitude Toward the Subject Matter and Retention of the Subject Matter.* University of Maryland. 1972. 33/1973.
This tested junior high students using an instructional television lesson whose purpose was to encourage reading for pleasure. It tested whether color TV made any difference by giving an attitude test and a cognitive test following the lesson. It was found that though the tests favored color television, it was no statistically significant.

Fischer, Robert A., Jr., *The Effectiveness of Four Modes of Instruction in a High School Social Science Unit Employing Remote Access Video and Audio Sources.* The University of Connecticut. 1972. 33/2690.

Sixty-four seniors were in four groups. All viewed a N.E.T. series, "Population Problem." Student groups were carrel, carrel with teacher available, classroom, and classroom with teacher available. Students filled out a guidesheet, then were tested. There was no significant difference for any group; all groups made highly significant gains.

Fitzgerald, Russell Guy, Jr., *The Effect of Videotaped Modeling Procedures on the Verbal Behaviors of Student-Teachers.* West Virginia University. 1970. 31/4002.

This studied 52 students in a general education methods course taken preceding their student teaching. The experimental groups received instruction through perceptual modeling of the ten categories of a modified Flanders Interaction Analysis System via videotape and discussion, whereas the control group used only discussion and other verbal instruction concerning the concepts of the modified Flanders Analysis System. Observers then studied their verbal behavior while they student taught. It was found that the experimental groups showed significantly different and more desirable verbal behavior.

Fontan-Pueyo, Jose: see Audio-Visual

Forster, Robert Mitchell, *An Experiment in Teaching Transitional, Cursive Handwriting by Educational Television with Teacher Attitude Toward the Teaching of Handwriting as a Factor.* Ohio University. 1971. 32/1184.

This study was done on 2,534 third grade students and using 90 teachers with varied dispositions as to handwriting. The conclusion was that educational TV is a better method than the standard teacher instructional method, that the teachers' attitudes toward handwriting had little or no effect, and that the teachers who used TV preferred that method of teaching handwriting.

Galey, Minaruth, *The Development of Inquiry Through the Use of Television in First Grade Science.* University of Pennsylvania. 1970. 31/4576.

One hundred and twenty-three children were assigned to five treatment groups: 1) TV class 2)Free TV class 3) No TV—one class 4) Control group and 5) No TV-2. TV teaching was found to be significantly higher than no TV.

Gates, Robert Reutter, *The Differential Effectiveness of Various Modes of Presenting Verbal Information to Deaf Students Through Modified Television Formats.* University of Pittsburgh. 1970. 31/4585.

One hundred and forty deaf students were assigned to one of seven treatment groups. Four of the seven groups employed captions in one form or another in the TV presentation. The amount of verbal information received by deaf students was significantly greater when captions were incorporated into the presentations. Also retention (one week) was greater in similar mode.

Golding, Eugene Boyd, *An Analysis of the Utilization of Videotape and Still-Camera Activities on Personality Adjustment of Selected Seventh Grade Students.* Mississippi State University. 1969. 30/4718.

This study was done to determine if the addition of videotape and still camera to conventional classroom instruction is more effective in contributing to personality adjustment than conventional instruction alone. It studied 240 junior high school students. The experimental group used videotapes one hour weekly and still-camera intermittently. It was found that the experimental group was more self-reliant and had a greater feeling of belonging than the control group, however, no statistically significant difference was found between the two groups on the other 13 personality variables studied. Recommendations for further study were made.

Goodwin, Allan, *An Experiment in the Use of Videotape Recordings for Self-Evaluation in Salesmanship Training.* Temple University. 1972. 33/1603.

Subjects were taped, witnessed a replay, then wrote a critique. Eighty-three juniors in a Salesmanship course participated. Best use was found to be in developing personality skills. Peer participation is the most effective approach for novice training. Instructor participation is best for theoretical understandings and advanced training. The instructor need not be present when training novices.

Grass, Calvin Frederick, *A Study Relating Levels of Understanding of Selected Concepts of Motion to Chronological Age Using Verbal Response to Visual Stimulus.* The Ohio State University. 1972. 33/1537.

Visual stimulus used was videotapes, oral response used was taperecorder. Forty-three subjects, nine through 17 years were used. A high correlation existed between age and levels of understanding, but a very low correlation with IQ or GPA and levels of understanding. A curve showing relationship of level of understanding and age was obtained.

Green, William Bartell, *The Effectiveness of Television Replay as a Technique in Teaching Beginning Swimming Skills.* Brigham Young University. 1970. 30/5270.

This study was undertaken to determine if TV replay was effective in teaching beginning swimming skills using 56 male university students, divided into beginning and advanced beginning classes. Groups used traditional methods, and TV replay along with the traditional methods. Both groups had a statistically significant increase in achievement, but there was also a statistically significant difference between the two methods, in favor of the use of TV replay. Also the advanced beginners exhibited a greater achievement increase than the beginners. Further recommendations were made.

Grose, Gerald Kern, *A Study of the Effect of Use of the Video-Taperecorder in the Teaching of Beginning Conducting.* University of Illinois at Urbana-Champaign. 1970. 31/2229.

It was found that the video-taperecorder did not significantly aid in the acquisition of conducting skills by undergraduate music education majors. It, however, was met very enthusiastically by the students and, by comparison with a control group, it had no adverse effects.

Grzegorek, Alfred Edward, *A Study of the Effects of Two Types of Emphasis in Counselor Training Used in Conjunction with Simulation and Videotaping.* Michigan State University. 1971. 32/3027.

One emphasis was experiential-accepting; the other was cognitive-intellectual. Forty-four counselors were subjects. Experimental tasks utilized media. On the Counselor Verbal Response Scale the experiential-accepting group had higher scores.

Gullo, Joseph F., *Effects of Videotaped Value-Clarification Encounters Upon Tests of Alternativism and Divergent Thinking.* The University of Rochester. 32/3860.

One hundred and twenty tenth graders spent three class periods generating and discussing possible alternatives to a value-clarification problem, role-played and videotaped the alternatives and the consequences, and made value choices. There was no significant difference found in tests of divergent production. Findings confirmed Guilford's findings that females are superior in tests of verbal expressional fluency, and there are environmental differences between schools.

Hansen, Herbert Eugene, *Experimental Evaluation of Videotape on Instruction in Vocational Agriculture.* Iowa State University. 1971. 32/1998.

This study tested videotape's effect in vocational agriculture, using 12 schools in Iowa, six of which used the videotaped segments. Four selected subject matter units were used. Also, data was collected on the students concerning their aptitudes, interests, experiences. Videotape was found to be as effective in vocational agriculture instruction as normal methods.

Hedges, Lowell Eugene, *The Feasibility of Using Videotape Techniques in Pre-Service Teacher Education in Agriculture.* The Ohio State University. 1970. 31/1664.

Thirty-nine student-teachers participated in a controlled experiment, using either 1) videotaped microteaching plus video review 2) video review only or 3) neither. The most appropriate method seemed to be videotaped micro-teaching prior to student-teaching, plus video review.

Heiserman, Mary Susan, *The Effect of Experiential Videotape Training Procedures Compared to Cognitive Classroom Teaching Methods on the Interpersonal Communication Skills of Juvenile Court Caseworkers.* Michigan State University. 1971. 32/4949.

An experiential videotape method of training court caseworkers was developed to improve sensitivity to delinquents. Interpersonal Process Recall (IPR) was the program. Simulation films, videotaping, and immediate playback were used. Client perception of the contact significantly favored the experimental training group. There was no difference in time of training.

Hemrick, Eugene F., *Modification of Teacher Behavior in Religious Education Through the Use of Videotape Feedback.* University of Notre Dame. 1971. 32/2527.

Twenty religious education students were assigned to one of three treatments: 1) video feedback with direct supervision 2) video feedback with indirect supervision and 3) videotaping, but no feedback. Flanders Interaction Analysis was used. The three types of treatment caused significant change within the groups. The treatments were not significant among themselves.

Hilsgen, James Edmund, *An Evaluative Study of Closed-Circuit Television in the San Diego City Schools.* United States International University. 1971. 32/1748.

This studied teachers' attitudes toward CCTV and sought to identify factors encouraging or discouraging its use, to determine how much it is used in the schools that use it, and in which subject areas it is used. Twenty-six secondary schools which used it and four which did not were studied. It was found that the amount of time it was used varied greatly from school to school, as well as which subject areas used it and which programs they used.

Hoehn, Robert Elton: see Audio

Hoffmeister, Charles Frederick, *A Study to Determine the Effectiveness of Videotape Models and of Supervisory Critique Supplemented by Videotape Replay as a Means of Improving the Performance of Student Instructors in the In-Car Phase of Driver Education.* Michigan State University. 1972. 33/2218.

It was found that those students who viewed the videotape model and a replay of their own performance scored significantly higher on almost all facets of the Driver Education Teacher Performance Inventory than those who did not.

Hoops, M. Dean, *A Study of the Effects of Videotape Feedback Upon the Verbal Behavior of Teachers in Classes for the Mentally Handicapped.* The University of Michigan. 1969. 31/663.

Thirty-six teachers of mentally retarded children were assigned to three groups: 1) a control-tape group 2) a videotape without prompting group and 3) a videotape with prompting group. Viewing teacher behavior tends to help teachers change indirectness and praising teacher behavior.

Hopkins, John Thomas, *A Study of the Effects of Human and Videotape Observation on Children Performing a Paper-and-Pencil Task.* University of Virginia. 1972. 33/1045.

One hundred and thirty "normal" and 38 special education students, ages ten to 12, performed a drawing task and a coding task under different observational conditions: 1) human observer 2) videotaped with operator present 3) videotaped without operator present and 4) no observer or videotape present. The conclusions from the study were not clear, but it seems that the students' working efficiency may have been decreased during observation (both human and videotape). Whether it affected their concentration was not clear.

Horikawa, Herbert Jun: see Audio

Hughes, Nigel Strangman, *The Effect of Videotaped Lessons Upon Elementary Education Majors' Attitudes Towards Teaching.* University of Oregon. 1970. 32/284.

Forty physical education majors were videotaped. Attitudes towards teaching did not change. They did feel that self-evaluation using videotaping was valuable.

Hull, Ronald Eugene, *A Critical Analysis of the Development of Television for South Vietnam.* The University of Nebraska. 1970. 31/5076.

This evaluation of the development of TV for South Vietnam is helpful for providing guidance in developing programming and procedures in other technically developing countries.

Iglesias, Manuel J., *Spain's Instructional Television System: A Critical Assessment.* The Ohio State University. 1972. 33/1321.

The years 1967-70 were evaluated. Elementary education was stressed. Questionnaires and interviews showed the ITV system improved the learning and teaching process and was accepted by teachers and students. However, it was cancelled by political decision in 1970-71.

Ivey, Don Richard, *A Critical Evaluation of the Effect of Team-Teaching Upon Adult Bible Study When Applied Through Closed-Circuit Videotape Television.* Southwestern Baptist Theological Seminary. 1972.

No abstract available.

Jernigan, William Wade, Jr., *A Comparison of Dial Access Video Used Alone with Dial Access Video Used in Conjunction with Seminar Groups in Teaching Freshman English at Oral Roberts University.* The University of Tulsa. 1972. 33/807.

One hundred and seventy-two subjects were used. The *experimental groups had greater gain on the New Purdue Placement Test in English. Multiple viewing plus a seminar was better than just the video.*

Johnson, Marjorie Ellen, *A Seminar Using Videotapes and Interaction Analysis as a Means of Improving Supervisory Skills of Cooperating Teachers.* University of Northern Colorado. 1970. 31/ 4008.

Analysis of videotapes of student-teachers and training in Interaction Analysis was given to improve the supervisory skills of teachers. Thirty-seven teachers and their assigned student-teachers were involved. Each rated the other. Significant difference in the ratings done by teachers was not found, but the experimental group had more variability in ratings.

Jones, Andrew Melvin, *A Survey of Industrial Enterprises in Mississippi to Ascertain the Desirability of Offering Fundamental Training Courses Through the Media of Television to Upgrade Employees.* The University of Mississippi. 1969. 31/586.

A questionnaire was distributed to ¼ administrative force, ¼ supervisors and ½ other employees. Conclusions were that training courses should be developed, closed-circuit units be investigated for possible use and that a further study be made to determine if education by TV would change learners' opinions.

Jones, Gary Hayden, *Student Produced Videotaped and Live Instructional Lessons as They Relate to Satisfaction, Improvisation, and Reciprocity.* Utah State University. 1970. 31/296.

This study was done in order to become aware of the reactions of two groups of students who 1) produced videotaped instructional lessons or 2) produced live instructional lessons, and to judge the satisfaction, improvisation and reciprocity (as defined in the thesis) involved. It was found that the use of the video-tape-recorder did cause more satisfaction and improvisation, but did not add to what the author termed reciprocity.

Karasar, Niyazi, *Impact of Video Feedback on Teachers' Eye-Contact Mannerisms in Microteaching.* The Ohio State University. 1970. 31/3391.

The impact of video feedback on eye-contact mannerisms in the introduction; presentation; summary; and all three parts of a lesson was studied. No major effort to change eye-contact was made. There was no significant difference between the group with video feedback and the control group.

Kautz, William David, *Effectiveness of Videotape Feedback and Systematic Observation Training in Modifying the Verbal Behavior of Student-Teachers.* The Pennsylvania State University. 1970. 31/2774.

Student-teachers of English were subjects. Some got systematic observation, some got video feedback, some got both. Videotape and written record feedback were equally effective in causing change in learner oriented verbal behavior. The combination treatment group had insignificant increased change.

Kearney, M. Paul Michael, Sister, *A Comparison of the Effects of Videotapes, Interaction Analysis, and Regular Classroom Observation in Programs of Elementary Teacher Preparation.* University of California, Berkeley. 1970. 31/5250.

The videotape group used it as the means of describing, identifying, and classifying the teaching style exhibited by the subjects. Results tended to favor interaction analysis; it was far less threatening. Perhaps conventional supervision is preferable to videotapes.

Kerrebrock, Robert Allen, *Application of the Micro-Counseling Method Using Video-Tape Recordings to the Training of Teachers in Basic Counseling Techniques.* University of Southern California. 1971. 32/740.

Thirty-six secondary teachers were trained by three counselors. Two of three skills taught reached significance—responding to feeling, and expression of feeling. Attending behavior did not reach significance. Micro-counseling with VTR use showed promise for rapid presentation of counseling skills, and stimulated great interest.

Kinerk, Nedra Kay Swart, *A Study of the Effects of Videotaping in the Development of Teaching Behavior Among a Select Group of Participating Students.* Ball State University. 1969. 30/5320.

Fifty-eight university students were divided into four groups. The experimental group was instructed in the Flanders System of Interaction Analysis. After teaching a microlesson, they were given instructional feedback from a tally of the classroom interaction and from videotape replay. Group 2 was instructed in Interaction Analysis and received further instruction after teaching their microlesson. Group 3 saw a video replay only. Group 4 was a control. No significant differences were found. The videotaped groups seemed somewhat more serious and less rigid. The students favored the use of videotape and Instructional Analysis procedures.

King, Franklin J., *Feasibility of Incorporating Telelecture in Presenting a Teaching Methods Course to Vocational Teachers.* University of Missouri, Colombia. 1970. 31/3919.

Three different treatment groups were used in this study. One presented the material ½ by telelecture and ½ by face-to-face lecture-discussion, the second group used wholly the telelecture, and the third group the face-to-face lecture-discussion method. Findings were that none of the three methods were shown to be superior, each method produced a positive attitude, and the telelecture method turned out to be most economical.

King, Wilbert Allen, *The Effects of Video-Tape Feedback on the Achievement of Students in a Beginning Conducting Class.* University of Maryland. 1971. 32/4987.

Forty-two students took part in an experiment to determine if videotape playback would result in better conducting techniques. Twenty-two were in the experimental group and 20 were in the control group. Videotape was used for self-evaluation with a guide. Conducting tests were rated by a panel of three judges. A significant difference did occur with students having videotape playback.

Kissock, Craig McNeil, *A Study to Test the Value of Microteaching in a Program of Video Modeling Instruction in the Development of Higher Order Question Asking on the Part of Pre-Service Teachers.* University of Minnesota. 1971. 32/2531.

Sixty-nine pre-service secondary teachers were assigned to two groups. One had a microteaching experience, the other, a non-microteaching experience. Conclusions were that microteaching adds to effectiveness of video modeling instruction programs, but not significantly.

Klasek, Charles Bernard, *Instructional Television: The Organization and Administration of an Effective Utilization Program for Single or Multiple System Application.* The University of Nebraska-Lincoln. 1971. 32/2532.

This study was developmental with an aim toward organizing elements of an effective classroom utilization of ITV into a teacher education program.

Klein, Matthew Aaron, *An Evaluation of the Television High School Project of the Detroit Urban Adult Education Institute and Michigan Blueshield.* Michigan State University. 1970. 31/2091.

This study was undertaken to determine the effectiveness of "TV high school" in passing the General Education Development Test (GED). It was found to be no more effective than informal means of preparing people. Many findings regarding "TV high school" were reported, such as dropout due to lack of two-way communication, and also that it did not reach the hard-core unemployed; mostly it was used by housewives.

Knudson, Richard Lewis, *The Effect of Pupil-Prepared Videotaped Dramas on the Language Development of Selected Rural Children.* Boston University. 1970. 31/2257.

This study showed that for ninth grade students who had reading difficulties and I.Q.'s between 85-100, those participating in preparing and producing videotaped dramas experienced a significant positive language growth as seen by testing their reading, writing, and speech.

Koch, Richard Roy, *A Study of the Effectiveness of a Unit in Geometry Utilizing ETV for Third and Fourth Graders.* Rutgers University. 1970. 31/4202.

This discusses a unit in non-metric geometry devised for third and fourth graders using educational TV. Over 1,000 students were used. Among the conclusions were that the inclusion of the 15-minute telecasts were viewed favorably by the students, especially the fourth graders, and that though there was a difference in means as far as achievement between the experimental and control groups, it was not significant.

Kosier, Kenneth Paulson, *Effects on Task-Oriented Behavior of Teacher In-Service, Charted and Video-Taped Feedback and Individual Consultation.* The University of Wisconsin. 1970. 31/5850.

Twenty-six teachers received in-service aid, or in-service and feedback and consultation via videotape. Percent of time-on-task for problem pupils and the whole class was kept for weekly intervals. Training increased this with problem pupils from 53% to 78%. Those teachers with consultation had faster change rates with their pupils.

Krajewski, Robert Joseph, *A Study of the Effects of Video-Taping and Flanders Interaction Analysis Matrix Recordings on Secondary Master of Arts in Teaching Degree Interns.* Duke University. 1971. 32/2958.

Forty-one subjects were used. The Minnesota Teacher Attitude Inventory was given. The experimental group was more indirect, talked less, praised more, used student ideas more. They were less idealistic and more nearly accurate in self-evaluation and more positive toward teaching.

LaFollette, James Joseph, *The Effect of Video Feedback and Demonstration Film Loops on Learning Basic Archery Skill.* Indiana University. 1969. 31/297.

This study was done in order to determine guidelines in selected suitable media in the teaching of gross motor skills; specifically focusing on archery skills, and using video feedback and demonstration film loops. Four different treatment groups in a university beginning archery class were used, using the four possible combinations of using or not using video feedback coupled with using or not using film loops. None of the four groups were shown to be significantly superior. However, a significant number of students did have a favorable attitude to the use of media and a significant achievement was demonstrated in all four groups. The use of media is demonstrated as having a very positive effect.

Lambert, Carol Seager, *A Video-Modeling Approach to Group Counseling.* University of Southern California. 1971. 32/1275.

Eighth grade subjects were used in a video-model counseling experience involving reinforcement on school-related matters and a traditional encounter with group-centered discussion. Each group had some effectiveness.

Lavi, Aryeh, *A Descriptive Survey of Instructional Television in Industry (ITVI).* The University of Michigan. 1970. 32/1253.

He defines and describes present uses. Personal interview was used. ITV was used for orientation of new people, updating professionals, and skill training.

Laycock, Clifford Wayne, *The Effects of Tape-Recorded Textbook Passages Upon Social Studies Achievement of Selected Elementary School Intermediate Pupils.* Oklahoma State University. 1970. 31/5671.

This compared the effects of tape-recorded segments to silent reading of the same material. There was not found to be any statistically significant difference between the two methods at each grade level (4,5,6).

Lentini, Gerard Francis, *The Relationship Between the Organizational Climates of Selected Georgia Elementary Schools and the Frequency of Utilization of Instructional Television.* The University of Georgia. 1971. 32/3621.

The purpose was to determine if climate (open, autonomous, or controlled) had an effect on use of instructional television. ITV utilization and organizational climates of selected Georgia schools were 1) negatively related, but not significantly so and 2) closed climate schools utilized ITV more than schools with any other climate similarity.

Lippe, Dwight Edgar, *Some Effects of Video-Tape Feedback on Selected Verbal and Nonverbal Teaching Behaviors of Prospective Elementary Teachers.* Oregon State University. 1971. 32/1960.

This was done to determine if videotape feedback is effective in modifying four selected verbal and four selected nonverbal behaviors of untrained prospective elementary teachers. Feedback was found to produce a greater behavioral change than no feedback; however, supervisory feedback alone seemed to be better than supervisory feedback with videotape replay.

Lott, Harold Henry, *Televised Art Education for the Elementary Teacher: Proposals for Content in an Instructional Television (ITV) Program.* Columbia University. 1970. 31/1668.

A state-wide art education program was being planned. Content areas proposed were 1) the teacher as a mediator of the child's art experience 2) the child's expressive behavior in art 3) developing the child's concept of visual form and 4) the child's creative and aesthetic response as education. Nine telecast script sketches were developed.

Lucas, Robert Joseph, *An Examination of the Relevance of Selected Teacher Variables in Judging the Effectiveness of Instructional Television Programs.* Wayne State University. 1971. 32/6007.

Teachers cannot predict the effectiveness of instructional TV programs, only a target learner group can accurately determine a program's effectiveness.

McFadden, John William, Jr., *The Effects of Videotape Feedback on the Verbal Behavior of Pre-Service Teachers.* The University of Florida. 1971. 32/5092.

Twenty-seven junior elementary education majors were given training in analyzing and drawing inferences about teaching from data on an interaction analysis instrument. Subjects were observed and videotaped. Feedback sessions were held for observed students. Experimental group subjects were invited to view privately their videotapes. Results show that pre-service teachers receiving video feedback differed significantly in their verbal behavior in use of 1) corrective measures 2) statements that tended to create tension and 3) rejection or criticism of another's opinion.

McHugh, Donald Emmett, *The Effectiveness of the Use of Videotaped Interviews Centered on Superior/Subordinate Relationships in a Management Development Program.* The Ohio State University. 1971. 32/1832.

Industrial employees were interviewed on videotape. A questionnaire was given to supervisors on the effect of viewing their interviews. Significant changes in supervisor's attitudes were found. They were overly optimistic in their pretest perceptions of employee viewpoints. The participants expressed satisfaction with the experiment.

McLaren, John David, *The Effectiveness of Videotape Replay in Teaching the High Jump.* Brigham Young University. 1971. 32/1321.

Seventh graders were tested supplementing traditional teaching methods with videotape. There was a significant benefit.

McLaurin, Arthur Porter, *The Development of a Rationale for the Content of Televised Teacher In-Service Series.* University of South Carolina. 1972. 33/1569.

The series was LET, dealing with educationally disadvantaged children. A questionnaire provided teacher input. Fifteen segments were developed. They are copyrighted by the South Carolina Educational Television Network.

Maddox, Gilbert Alan, *A Study of CPT: Public Television Programming for Detroit's Black Community.* Wayne State University. 1970. 31/3684.

CPT studied a 14-week TV series produced by and for the black viewer, which had a magazine format with six specific elements. The subjects were 226 community leaders. Through questionnaires, reactions to this program, responses toward treatment of the black community in mass media and media habits and preferences were discovered. Many major conclusions and recommendations were given.

Madson, Marland Leroy, *Methods, Including CCTV, of Presenting Introductory Biology: Their Affect on College Freshmen.* University of Minnesota. 1969. 30/4293.

This studied freshmen in Biology 1 with no previous exposure to CCTV. Three different treatment groups were used with varying amounts of personal contacts with professors and one group using no CCTV. It tried to see if the amount of personal contact would affect the student's achievement or attitudes. The results were that the more personal the contact with instructors, the more positive the attitude towards different aspects of biology. There did not appear to be an effect on their achievement.

Maples, Newsom Battle, *A Study of Elementary Student-Teachers' Patterns of Verbal Interaction and Attitudes as Affected by Self-Evaluation and Pupil Feedback Via the Use of Dual Videotape Recordings.* University of Oregon. 1971. 32/3140.

Twenty-two subjects were tested with the Flanders Interaction Analysis System and Teacher Situation Reaction Test. Results were greater indirectness, improved social-emotional classroom climate, greater pupil participation, improved teacher awareness, empathy, and attitudes.

Marshall, Eldon Kent, *Trainee Preparation for Group Counseling: Attitudinal and Goal-Setting Effects of Videotaped Counseling Groups Modeling Different Levels of Goal Specificity.* Saint Louis University. 1972. 33/973.

This was done to determine if viewing videotaped role-played counseling groups would influence attitudes and goal-setting behaviors of prospective group counseling, more so than just reading a description of the counseling group. It was found that viewing videotaped, role-played counseling groups modeling high levels of goal specificity and low levels of goal specificity did differentially affect their attitudes toward counseling groups, but not their goal-setting behavior.

Martin, Roger Duane, *Videotape Self-Confrontation in Human Relations Training.* University of Alberta (Canada). 1970.

No abstract available.

Mason, Robert Charles, *An Experimental Evaluation and Comparison of Three Television Feedback Techniques Used in Adult Education Classes.* The University of Nebraska-Lincoln. 1969. 31/137.

This study tried to ascertain how educational TV could best be used to provide farmers in remote communities with access to the University and its specialists. Three different feedback techniques were studied. It was found that the most direct feedback resulted in the greater gain in subject matter. However, regardless of techniques, the attitudes towards the TV workshops were not affected. County agents accepted the use of TV as a successful method of instruction.

Matthews, Edsel Lee, *The Effectiveness of Videotape Replay as an Adjunct in Teaching the Golf Swing.* University of Utah. 1971. 31/5826.

Forty college students were involved. Half had video replay. Experimental group females had significant improvement; females had the greatest improvement. Control group had insignificant improvement, as did experimental group males.

Mayhew, Bernice Jackson, *An Exploratory Study of the Effect of Videotape Training on Pre-Service Elementary Education Student Observation of Reading Behavior.* Kent State University. 1971. 32/6273.

The study included construction of an observation scale, development of 41 videotapes, and investigation of the effect of videotape training. Seventy-eight juniors participated. No significant differences were found as a result of the experiment.

Merck, Kenneth Horace, *A Model of a Precision Video-Tape Counseling Procedure: The Effects of Video-Tape Playback on the Productivity and Non-Attention-to-Work Behavior of Individual Multiply-Handicapped Clients.* Indiana University. 1970. 31/2689.

The daily effects on three persons of repetitive feedback in a sheltered workshop are studied. Effects of the playback vary not only with the individual but also with the work situation.

Miller, Nancy Lothrop, *The Effects of Video-Tape Procedures on Counselor Trainees' Responses.* Arizona State University. 1971. 32/183.

A modeling and reinforcement video group was superior to modeling-only, and both were superior to no treatment in teaching Understanding Responses to 36 subjects. The Counselor Verbal Response Scale was used as a measure. Performance in simulated counseling did not predict actual counseling performance.

Mills, Donald Benson, *An Exploration of the Relationship Between Television Habits, Preferences, and Aggression in Sixth-Grade Boys.* University of Maryland. 1971. 32/4842.

Using a self-designed questionnaire, there was found to be little, if any, relationship between the two. Their current teachers rated them on their aggressiveness. Fifteen classrooms of sixth grade boys were used.

Moegenburg, Louis Arthur: see Programmed Instruction

Moore, Dorothy Adele, *The Function of Educational Television in Selected Elementary Schools.* The American University. 1970. 31/2618.

An open-end questionnaire went to 377 teachers. There is an important relationship between teacher attitude toward TV and student attitude. TV was used most for language arts, science, and social studies. Pre-service and in-service education of teachers was recommended for better understanding and utilization of TV.

Nagel, Paul Richard, *An Investigation of the Validity of Micro-Teaching with Video-Playback as an Integral Part of a Program for Preparing Elementary Teachers.* University of Minnesota. 1970. 32/288.

Forty juniors were in three groups: microteaching, participation, and observation. Microteaching students obtained superior results in less time. They had a better perception of good and poor teaching practices, and were judged to have better actual teaching performance.

Newton, Earle Edwin, *An Investigation of Considerations Which Teachers Perceive to be Influential in Their Decision to Use or Not to Use Television Programs.* University of Oregon. 1971. 32/4895.

The most influential factors operating were the learning situation created by the use of programs and the time of day and/or week programs were available. Least important were wishes of colleagues with whom the teacher works.

Nolte, Sherry Lynne, *A Comparison of Reading Levels of Seventh Grade Students and Television Preferences.* The University of Oklahoma. 1970. 32/100.

It was found that situation comedy shows were the favorite of high and medium level readers, adventure shows of low readers, and sports shows were the least favorite of all three levels.

Oaks, Audrey Eleanor, *A Comparative Study of Attitudinal and Behavioral Change in Teachers of Art as a Result of Video-Tape Feedback and Classroom Teaching Experience in a Program Prior to Student Teaching.* Oklahoma State University. 1971. 33/592.

Fourteen students were subjects. Standardized tests were used. Video-tape improved some teaching skills. The micro-teaching was highly valuable to improvement of and recognition of desirable teacher behaviors.

Ochs, Keith M., *The Effect of Video-tape Replay as an Instructional Aid in Beginning Bowling Classes.* The University of Alabama. 1970. 31/5183.

Subjects were videotaped during second and last lessons for pre and post treatment analysis. One group received video feedback, another received this plus auditory feedback twice during each class. All groups gained significantly. In this study, videotape was not of enough value to warrant the expense.

O'Donnell, Lewis Bowers, *Determination of Optimal Angles and Distances for Viewing Alphanumeric Characters and Geometric Patterns on a Television Receiver.* Syracuse University. 1970. 31/5943.

Two hundred and ten subjects were assigned to 35 viewing positions. Acceptable alphanumeric viewing ranges from three to 20 times the image width, with maximum angle of 75 degrees each side of the axis. For geometric viewing this is reduced to 16 times image width and 60 degree angle. Distance from the receiver affects accuracy of viewing.

Parris, Helen Elizabeth, *Facilitating India's Family Planning Program Through Television: A Study of Source Effectiveness.* Michigan State University. 1971. 32/3099.

Village opinion leaders and an urban medical expert were compared. Both were highly credible. The village opinion leader led to more knowledge gain. Levels of modernity of subjects had no effect.

Paullin, Alyce Klussman, *Participation, Learning Achievement and Perceived Benefit in a Televised Continuing Medical Education Program.* The Catholic University of America. 1971. 32/1197.

Televised cardiology programs for physicians were studied. There was a high level of participation. Learning gain occurred. Scrambled image broadcast was used.

Pearson, Dennis H., *Two Physiological Measures of Counseling Supervisors Viewing a Video-Tape Stimulus.* University of Northern Colorado. 1972. 33/975.

A sample of 15 students, divided into three groups of inexperienced supervisors, experienced supervisors, and experienced counselors, viewed a videotaped counseling session during which their galvanic skin response and cardiac frequency were measured. They were asked to identify threatening statements and to say whether their judgment of these statements had a cognitive or affective base. By using the above-mentioned measurement of physiological responses, it was found that the students did not react in a statistically significant manner. It was also found that cognitive recognition was used and that they did not correctly identify all threatening statements. It was concluded that subjects did not carefully observe videotapes and also that the sample may have been too small.

Pease, Joseph Jothan, *The Effectiveness of Video-Tape Feedback on Driving Performance and Self-Evaluation.* The University of Wisconsin. 1971. 32/3672.

Using actual driving conditions, four conditions were devised: 1) self-evaluation via video-tape only 2) teacher critiques only 3) self-evaluation via video-tape and teacher critique, and 4) no feedback. Results showed self-evaluation and teacher critiques were more effective than feedback made via video-tape or no feedback at all. Self-evaluation of driving ability was not significantly affected by any mode.

Pennington, Donald Joseph, *The Development of Educational Television Station KETS and Its Utilization in Central Arkansas.* University of Arkansas. 1970. 31/1040.

A history of ETV in Arkansas, 1959–, is given. It also studied utilization of KETS programming. Slightly over one-half of the school districts made use of KETS. Limited school use is caused chiefly by scheduling, and lack of finance. Teachers were more favorable than administrators and blamed them for the low usage.

Perry, Billy Lee, *The Effect of Closed-Circuit Television on Achievement.* The University of Oklahoma. 1970. 31/3256.

This was a comparison of three different teaching methods: Group A: face-to-face with a professor, group B: pretaped lectures plus 20 minutes of interaction with a special instructor, and group C: professional instruction (traditional) with occasional viewing of selected lectures. The results showed significant difference favoring group B.

Peterson, John Vincent, *Differential Responses of Counselor and Teacher Trainees to Video-Taped Segments of Student Problems.* University of Illinois at Urbana-Champaign. 1970. 31/4471.

Thirty-one student-teachers and 49 counselor trainees viewed 25 role-played videotaped scenes showing problems of students from elementary through college age. Student-teachers classified problems more accurately than counselor trainees. Recommendations are made to counselor educators to work with teacher training programs.

Phillips, Thomas Gordon, Jr.,: see Programmed Instruction

Pierce, Frank Ronald, *A Feasibility Study of Television Usage in the Graduate School of Education, The University of California at Los Angeles.* University of California, Los Angeles. 1971. 32/1387.

Data collected included information needed to understand the television medium, a measure of perceived needs for TV services, a study of possible uses of TV, and the design of a technical system. The study provides data for informed decisions on possible usage of TV.

Polvino, Geraldine Joyce, *The Relative Effectiveness of Two Methods of Video-Tape Analysis in Learning a Selected Sport Skill.* The University of Iowa. 1971. 32/1322.

College women's bowling was tested. Groups used video and video with illustrations. There was no significant difference.

Poteet, Billie Grace Burum, *The Effect of Casual Viewing of Filmed Television Programs on Subject Preference and Achievement in Science.* University of Arkansas. 1972. 32/5112.

Using a preference inventory and an achievement test, it was determined that a positive attitude toward science was created by watching "Mr. Wizard" films. Higher achievement between the three groups did not occur.

Pressman, Robert Martin, *An Investigation of the Effect of Feedback Used in a Programmed Video-Tape Simulation Exercise Designed to Train Teachers to Recognize the Appropriate Moment of Reinforcement.* Syracuse University. 1971. 32/1387.

Viewers pressed a button when they wished to intervene in the viewed situation. Groups receiving immediate results were more accurate in later responses. Feedback aided performance in the simulation.

Pringle, Peter Kilner, *School Television Broadcasting in Britain: The First Decade, 1957–1967.* Ohio University. 1969. 31/412.

This discussed school TV in Britain, 1957–1967, including its policy, organization, aims, programs, the response of the viewing schools and whether the aims seem to have been accomplished. It discusses what the next decade will be like as far as TV in schools and what the needs and goals will be and changes that they will try to implement.

Priselac, Nancy J., *A Study in Interaction Process Analysis to Determine if Training Can Establish Audio and Video-Tape Data as Reliable as Direct Observation.* West Virginia University. 1971. 32/6064.

Seventy subjects were trained to use the categories in the Robert Bales Observation System. No significant differences were found among the groups analyzed. One and three-minute audio tapes and one and five-minute videotapes were utilized.

Quinn, Gerald Norman, *The Effects of Videotaped Model Reinforcement of Confrontation Techniques in Counseling.* Ball State University. 1971. 32/743.

Thirty-four counseling students participated in three hours and fifty-five minutes of treatment. Tapes showed number of confrontations, effectiveness of self-exploration, appropriateness of confrontations. There was no significant difference from this training method, but the videotaped model reinforcement group had an increased number of confrontations.

Raecke, Richard James, *An Identification of Restraining Influences on Instructional Television Utilization in Selected Non-Council Participating Nebraska School Systems.* The University of Nebraska-Lincoln. 1970. 31/3837.

This study was done to identify Nebraska school administrators' attitudes towards using instructional television and to eliminate their negative attitudes. Findings were that they did have positive attitudes towards its contributions to the curriculum, but felt that the introduction and follow-up by the teacher would add to its value, they believed that a variety is more effective, they wished there was more programming available and generally felt that the teachers needed more training in its use and its technical aspects.

Randall, Robert Wesley, *The Effects of Videotaped Microteaching on the Self-Concepts of Social Studies Student-Teachers.* University of Kentucky. 1972. 33/2225.

The Tennessee Self Concept Scale was used. One of 17 scores was significantly different, three were near significance. Videotaped sessions increased their willingness and ability to criticize self and accept criticism, and it improved self concepts.

Reed, Donald Edward, *A Comparative Study of the Opinions of Television Managers and School Superintendents Towards One Another and the Handling of School News on Television.* Ohio University. 1972. 33/504.

A questionnaire was used. Managers are disturbed at control of news releases and will give more time to schools if there is quality production and interesting programs. Superintendents desire more prime time, fear sensationalism. Greater personal contact is needed to improve the relationship.

Renfro, John Edwin, *Video Reinforcement in Health Instruction.* The University of Alabama. 1970. 31/3939.

One hundred and seventy college students were in conventional lecture, lecture-discussion, and lecture-videotape classes. There was no significant difference between groups in increase in health knowledge. There were no significant relationships with ACT scores, size of high school attended, nor socio-economic status and gain in health knowledge.

Ritter, Myron Wayne, *A Comparison of the Traditional Approach and of Independent Study by Video-Tape Dial Access in Trigonometry Classes.* The Pennsylvania State University. 1970. 32/254.

There was no significant difference in achievement scores (Cooperative Trigonometry Test) or attitudes towards the presentation mode. Videotape subjects had less than one-sixth as much teacher contact.

Roberts, Leland Henry, *An Investigation of Self-Identified Student-Teaching Problems in Conferences With and Without Video-Tape Recording Feedback.* Syracuse University. 1971. 32/4474.

Fourteen student-teachers with self-identified problems investigated them under two conditions of feedback: 1) videotape and 2) memory recall. Videotape showed no significant improvement over memory in identifying problems of personal, professional or perceptual nature, or in specificity of self-identified problems.

Rose, Kenneth Lee, *Toward a Procedure for More Responsive Education: The Use of Popular Television Programs as a Means for Improving Remedial Reading Instruction.* Wayne State University. 1971. 32/2407.

Over half of a group of remedial reading students were assigned activities closely related to their favorite TV programs. TV was found to be important as leisure activity and it increased the motivation of students in the experimental group.

Rutherford, Robert Bruce, Jr., *The Effects of a Model Videotape and Feedback Videotapes on the Teaching Styles of Teachers in Training.* George Peabody College for Teachers. 1971. 32/5075.

This study analyzed the effects of 1) a combined model and feedback tape intervention 2) a model tape intervention 3) a feedback tape intervention, and 4) a control condition. Results showed the combined model, a feedback tape intervention, and model videotape as being effective. The feedback videotape was ineffective when changing behavior.

Ryan, Francis John, *Guidelines for an Administrative Design to Coordinate the Instructional Television Fixed Service Facilities of the Roman Catholic Dioceses in the United States.* New York University. 1972. 33/1386.

A descriptive survey was used to compile data. A national coordinating office was being planned by this study. There was found a desire to cooperate. Administration and engineering were two areas for cooperation. A systems approach satisfied the needs of two national agencies interested in this program. Some future needs are a national videotape library, regional centers, and a survey of hardware, and CATV.

Ryder, David Franklin, *A Survey and Analysis of the Extent of Utilization of the 21-Inch Classroom Television Broadcasts in the Public Elementary Schools, Grades Four Through Six, Within the Subscribing School Districts of Massachusetts.* Boston University. 1970. 31/2020.

The study surveyed schools' use of this program. It was viewed in 83% of the schools. Seventy-one per cent were non or low users. There was a high amount of dissatisfaction with the programs.

Sajid, Abdul Waheed, *A Feasibility Study on the Exchange of Educational Television Programs Among Iran, Pakistan, and Turkey.* Northern Illinois University. 1971. 32/3573.

After studying the Regional Cooperation for Development Study, educational and instructional TV systems, copyright laws and customs regulations, it was concluded that it was feasible to have an exchange of educational TV programs among the countries studied.

Schivera, Howard Wesley, *A Comparison Study to Determine the Effect on Student Learning of Still Visuals Used for Review of a Televised Lesson.* Syracuse University. 1972. 33/1083.

One hundred and ninety-one fifth grade students viewed a televised astronomy lesson. After various combinations of visual review, visual verbal review, and teacher-directed review and no review at all were used, it was found that the use of visual review (when the visual content of the lesson is important) does enhance the learning process. It was also judged positively by the students and teachers.

Schloss, John Jacob, *The Effect of Video and Audio Playback in Group Counseling on Personality Change.* Syracuse University. 1969. 30/3285.

Twelve males and twelve females in an introductory psychology course were used to investigate the effect of audio and video feedback of group counseling sessions on participants' self-knowledge concerning "real self" and "ideal self" descriptions. Four groups were used 1) received no group counseling 2) received eight weeks of group counseling 3) received eight weeks of group counseling plus audio playback and 4) received eight weeks of group counseling plus videotaped playback. Preliminary to this, self-referent statements describing their "real selves" and "idealized selves" and an index of the discrepancy between the two were obtained. It was found that the group receiving group counseling alone was the only one which had a significant decrease in discrepancy. The other three did not change. It was suggested that perhaps the audio or visual was a distraction.

Schmid, William Thomas, *A Historical Analysis of the Educators' Request for Non-Commercial Television Channel Reservations in the United States.* The Ohio State University. 1970. 31/4505.

Four major areas of research were conducted: 1) the influence of earlier experiences in radio 2) the logic and presentation of the JCET's request for TV channels 3) commercial opposition to the educator's request, and 4) the major concerns of the FCC.

Schmit, Ralph R., *The Use of Instructional Television to Supplement the Guidance Program in the Elementary School.* The University of Manitoba (Canada). 1972.

No abstract available.

Schmit, Ralph Robert, *The Use of Instructional Television to Supplement the Guidance Program in the Elementary School.* Marquette University. 1971. 32/4360.

Three methods of teaching were used in presenting information to three experimental groups of fifth and sixth grade students: 1) conventional teaching 2) TV alone and 3) TV and teacher reinforcement. Significance was found between pre and post test attitudes of the group that used TV with teacher reinforcement.

Slahor, Stephenie Regena, *Developing and Using Case Study Films for Pre-Service and In-Service Training in Educational Administration.* University of Utah. 1971. 33/125.

Fifty-six minutes of videotape was recorded with seven situations, problems, and confrontations. They were open-ended on decisions. The programs enriched the courses that used them, and student reaction was favorable.

Sleeth, Stanford Helbert, *Effects of Four Response Modes to Televised Instruction.* Washington State University. 1969. 30/1083.

This studied four response modes to a televised demonstration using students from two universities divided into five groups: 1) a control group 2) a note-taking group 3) a group which had note-taking with superimposed cues 4) note-taking with superimposed cues and stop-action to allow time to write and 5) note-taking by completing sentences with superimposed cues and stop-action to allow time to write. Results and conclusions were given from each university as well as conclusions relating to both experiments. One finding was that merely taking notes while watching was the most efficient of the four response modes as far as increasing learning.

Smith, Barbara Bramlette, *The Effectiveness of Television Video Tape Instant Playback in Learning the Pitch and Run Shot in Golf.* University of North Carolina at Greensboro. 1969. 31/1059.

Thirty-seven undergraduate women were assigned to four treatment groups: 1) traditional instruction 2) traditional instruction as well as student-teacher analysis 3) traditional instruction plus student analysis and 4) a loop film. A reliability instrument on the pitch and run shot was constructed. No significant differences were discovered.

Smith, Robert Howard, *A Comparison of Instructional Evaluations by Teachers and Supervisors Using Video-Tape.* University of Minnesota. 1969. 30/1384.

This was done to determine the usefulness of videotape in observing and evaluating teacher effectiveness. It judged the difference between principals' and self-ratings of teachers. Eighty-eight teachers were used, ½ done by observation, ½ by viewing themselves two times on videotape. Videotape was found to be good for teacher self-evaluation.

Sobol, Thomas, *Rockwood Adopts a Dial-Select Television System: A Study of Educational Decision-Making Roles and Processes in a Suburban Community.* Columbia University. 1969. 31/126.

This discusses the decision-making process that a suburban community employs for educational innovations, who participates, etc. It also discusses why a participant makes certain decisions, gives a discussion of literature on the subject, and a comparison of decision-making processes in other fields.

Southall, George Arthur, *An Investigation of the Problems of Identifying and Relating the Cost-Time Variables Associated with the Use of Instructional Television in Education (K–12).* Syracuse University. 1970. 31/5735.

Interviews were conducted with key persons in 14 districts in New York. Cost accounting was of little interest to these educators. Those spending more were more likely to have good records of costs. None recommended their bookkeeping method for others. It was recommended that simple cost accounting models be developed and adopted, and that further research on ITV costs be done.

Speelman, Larry Lee, *The Effects of Residential Isolation on the Television Viewing Habits of a Group of Fifth Grade Students.* The Ohio State University. 1971. 32/3343.

This studied a public school district with both residentially isolated and non-isolated children, with the non-isolates as the control group. It used 295 students, of which 47 were in the experimental group. Dependent variables included residence, sex, siblings and number of friends outside school. Independent variables were type of format of TV program and amount of free time the student had. There were no statistically significant differences between the two groups, however, there were some differences found within each group when using the variables.

Spiro, Mary Puglin, *A Study to Identify Certain Characteristics of School In-Service Training Designed to Instruct Classroom Teachers in the Utilization of Closed-Circuit Television Programs.* University of Pittsburgh. 1970. 31/6458.

This was done to develop guidelines for in-service training programs for classroom teachers in the use of closed-circuit television. It was done by collecting data from existing programs, via questionnaires and interviews, and finding suggestions for these programs in the literature. Conclusions were that there is a need to train the teachers to use TV (workshops being the desirable way). Observation of experienced teachers is also an effective way for teachers to learn. Television's use should be integrated with curriculum planning. Many suggestions as to in-service training programs were given. It was also suggested that a videotape of the trainee in a classroom situation would be useful in the training process.

Starcher, Ronald Roscoe, *The Effectiveness of Video-Taping and Playback Equipment for Teaching Reading in the Secondary School.* The University of Arizona. 1971.

Thirty-six videotapes, 30 minutes each, were used. There was a large gain in rate, gain in comprehension and vocabulary scores. Subjects were positive toward reading and toward television, neutral toward TV instruction.

Sterling, Joanne Winifred, *Changes in Expressed Attitudes, Beliefs and Anxiety as a Function of Videotaped Self-Image Feedback.* The University of New Mexico. 1970.

No abstract available.

Stilwell, Kenneth James, *Attitude Affectation From Video Recording in Secondary Mathematics Methods Class.* University of Northern Colorado. 1971. 32/3850.

This study had a two-fold purpose. First it strove to discover if videotaping student demonstration lessons in secondary mathematics methods courses would have an effect on attitudes of prospective math teachers and, secondarily, if the methods course significantly affects the prospective teachers' attitudes towards teaching. It was found that the majority of the students did attain a more positive attitude towards teaching during the methods course, but that videotaping and critiquing their replays did not have a significant effect on their attitudes.

Sweeney, Thomas Joseph, Jr.,: See Projected Materials: Motion

Taylor, Wayne Gilbert, *The Effectiveness of Instant Videotape Replay as a Source of Immediate Visual Feedback Upon Learning or Improving Performance of a Gross Motor Skill.* The University of Tennessee. 1971. 32/4407.

This studied the effect of instant videotape replay in the performance of a gross motor skill, in this case, the whip kick, used in swimming the breaststroke. Forty-eight male students were used, assigned to four different treatment groups. One group had videotape replay with verbal feedback, the second group had videotape replay alone, the third group had verbal feedback and the fourth group had no feedback. It was found that the first group was significantly superior to the third and fourth groups. When further compared using their initial skills, it was found that the high skilled ones were the same in all four groups, the medium skilled ones in groups 1 and 3 were significantly superior to group 4 and the low skilled ones in group one were superior to those in 3 and 4.

Thatcher, Glenn Michael, *The Analysis of the Effect of Video-Tape Recordings for Substitute Teaching.* Southern Illinois University. 1970. 31/3924.

This tested whether videotape recordings could enable an out of the area substitute teacher to take over a class as effectively as the area substitute teacher by using an eighth grade mechanical drawing class. Relevant videotapes were found to be valuable in out of the area substitute teachers situations and also could be valuable for use by the permanent teachers. The out of the area substitute teachers also found them to be valuable and seemed to eliminate the usual discipline problems.

Thayer, Louis Christian, *A Comparison of Counselor-Trainee Responses to Various Audio-Visual Taped Simulation Procedures.* University of Illinois at Urbana-Champaign. 1970. 31/6355.

This study was done to test various simulation procedures which could increase the effectiveness of training people in a counselor education program. Five techniques were used: 1) audio-visual with instruction and practice 2) audio-visual with just instruction 3) just audio-visual 4) audio presentation of the role-played problem and 5) a textual presentation of the client's problem. Very little difference was found in the use of the five methods as far as identifying the client's problem. Audio-visual tapes were shown to be able to closely simulate real-life counseling situations.

Thornton, William Terrance: See Programmed Instruction

Tolar, Roger Lee, *An Analysis of Thought and Language in Videotaped Kindergarten Lessons.* The University of Texas at Austin. 1971. 33/88.

Eleven televised kindergarten lessons taught by the same teacher were analyzed in order to determine what differences occur in thought and language in the classroom between teacher and students as a function of time and subject matter. Thought and language varied significantly from one subject to another and with time. Language seemed a function of role expectations.

Traum, Emil Frank: See Programmed Instruction

Tucker, Jerry Lee, *The Effect of Televised Science Instruction on Verbal and Nonverbal Process Behaviors of Teachers and Students in Grades 1–4.* University of Washington. 1971. 32/5063.

Fifty-four volunteer teachers and three classes were randomly assigned to teach science to grades 1–4 under the following conditions: 1) "TV Ideal Conditions" only 2) "TV Regular Conditions" and district science 3) "TV Regular Condtions" only and 4) district science only. The results showed that all teachers asked about 1/3 recall and 1/3 interpretation questions, but non-TV teachers used more recall questions and a smaller proportion of observation, classification, experimentation and prediction questions.

Tucker, Paul Edward, *A Study of Video and Audio Feedback as Used in Minicourse 9: 'Thought Questions in Intermediate Grades'.* University of Oregon. 1971. 32/6278.

Audio feedback is as effective as videotape feedback when developing intern teachers' skill in asking complex thinking questions based upon knowledge, comprehension, analysis, synthesis and evaluation.

Turgeon, Pierre Paul, *The Use of Video Tape Replay in Rogerion Groups Centered Counseling.* University of Alberta (Canada). 1970.

No abstract available.

Tuttle, Roland Luther, Jr., *The Effects of Video-Tape Self-Analysis on Teacher Self-Concept, Effectiveness, and Perceptions of Students.* University of North Carolina at Chapel Hill. 1972. 33/1577.

Twenty-four fifth-year interns were tested and self-rated, and rated by their students. Each was videotaped four times in teaching situations. Subjects viewed the tape afterward. Findings included a decrease in physical self-concepts, those more effective became significantly stronger in self-perception and more positive of their own identity, those less effective became more subtly defensive.

Utz, Peter John, *Evaluation of a Visual Response System Using Multiple Television Cameras in a School for the Deaf.* University of Massachusetts. 1970. 31/4050.

This study was done in hopes of evaluating and improving an innovative teaching aid for schools for the deaf, specifically the Mediated Interaction by Televised Response (MITVR), which uses multiple TV cameras and monitors for instantaneous feedback to both teachers and students. It was found that it did fulfill most, but not all, of the objectives, increasing student participation, etc. Students liked the way it paced the teacher, but one teacher, for example, felt it slowed him down. Several other observations, both pro and con, were given. Most students were eager to use the system. Administrators seemed skeptical and wondered if the money could not be better used elsewhere.

Valine, Warren James, *Focused Feedback with Video-Tape: An Aid in Group Counseling of Underachieving College Freshmen.* University of Georgia. 1970. 31/5784.

Seventy-three students were in four groups to test relative effectiveness of counseling methods. A non-significant trend favored the immediate feedback group with GPA as the measure. There was no significant difference in self-concept variables among groups. Other groups were delayed feedback, non-video, and control. Videotape caused a generally favorable impression, with no detrimental effects evident.

Vollum, Muriel Arlene, *The Effectiveness of Proctor Interaction in Computer-Assisted Instruction in Relation to Certain Adult Characteristics.* North Carolina State University at Raleigh. 1971. 32/1255.

This examined the role of the proctor and also whether achievement is affected by age and self-esteem of the subjects. It studied, largely, female under-educated *subjects from 18 to 51 years of age. No significant difference was found between those exposed to interaction with proctors and those not exposed. Those with lower self-esteem took longer to complete lessons, otherwise there was no relationship to achievement. Age was positively correlated with high achievement and lower error scores.*

Ward, Phillip Martyn, *The Use of the Portable Videotape Recorder in Helping Inservice Teachers Self-Evaluate Their Teaching Behavior.* University of California, Berkeley. 1970. 31/3794.
Seventy-eight elementary teachers were in "one-shot" treatment or "distributed-time" treatment groups. Each subject got three hours of time. Groups were: self videotapes, self audiotapes, both, and control. The largest increase in the number of probing questions teachers ask pupils came with the audiotape distributed-time group. The distributed-time TV group was superior to the one-shot TV group.

Watkins, Frances Sue, *An Assessment of Continuing Dental Education Utilizing Educational Television as the Dissemination Medium.* University of South Dakota. 1972. 33/2778.
Three programs, each with three hour-long parts, were broadcast. Tests for each were mailed to 220 dentists. Test returns were greater for multiple-choice and true-false formats than for programmed questions. Telegram followup increased the responses. Post-test scores were significantly higher.

Weiss, Elma Steck, *The Value and Use of Instructional Television in Teaching Women Beginning Golfers.* Arizona State University. 1971. 32/1907.
This study was done to determine the effectiveness of TV replay in improving a beginning golfer's ability to drive with a five iron, using 69 college women subjects. Three groups were used; one with instant replay, one with delayed replay, and one with no replay. It was found that using the TV replay did not have a great enough effect on the beginning golfers to warrant its use.

Weiss, Mark Harbin, *The Effects of Videotape Focused Interracial Feedback on Facilitative Genuineness in Encounters.* University of South Carolina. 1971. 32/1228.
Nineteen school counselors from South Carolina (10 black, 9 white) were used in this study. They all had 45 hours of encounter group experience, with the experimental group having an additional 10 hours of videotape focused feedback of their own interactions. Among the conclusions were that 1) in both groups facilitative genuineness increased as measured by trained raters and 2) that the addition of the videotape did not significantly add to the change. However, other members of the group found those who had exposure to the videotape to be more effective.

Welbeck, Paa-Bekoe Henry Obed, *The Role of Ghana Television in Education and National Development: An Exploratory Study.* Michigan State University. 1971. 32/2927.
Sources are readings plus interviews. TV was developed for formal and informal educational reasons. Too few receivers are available in schools and community centers. TV should be more aimed at formal education at all levels.

Welsh, Grace Etherington McWhinnie, *An Analysis of Public Television for Continuing Education.* University of California, Los Angeles. 1970. 31/3430.
The objective was to analyze and clarify tasks facing adult educators and educational broadcasters. Some recommendations were for 1) a permanent and independent trust fund for public TV 2) an independent telecommunications authority 3) diversification of public TV's means of broadcasting and 4) that public TV place more emphasis on formal education.

Wenner, Harry Merton, *An Assessment of Video Tape as a Tool in the Improvement of Teacher Classroom Effectiveness.* University of Minnesota. 1969. 31/941.
Fifty volunteer teachers were assigned to two groups. The experimental group received training in objective appraisal via videotape. The other group used videotape casually without consultation. It appeared that training was not effective. Teachers revealed highly positive attitudes towards their efforts to achieve technical competence in self-appraisal.

White, Alice Post, *Tele-Supervision in Home Economics Teacher Preparation: A Exploratory Study.* The University of Wisconsin. 1970. 31/5919.
Tele-supervision was compared to traditional face-to-face supervision for home economics teacher preparation. It was found to be superior to face-to-face supervision and recommendations were given for ways of improving tele-supervision.

Whitley, Alton Daniel, *Counselor-Teacher Consultations Including Video Analysis to Reduce Undesirable Student Responses.* Southern Illinois University. 1970. 31/5142.

Microteaching procedures and edited videotapes were used to train eight elementary school counselors to discriminate among teacher-student interactions. Counselors were also trained to consult with teachers. Teachers increased their reinforcement of desirable behavior and decreased their reinforcement of undesirable behavior.

Wiegand, Regis Barry, *The Effectiveness of a Video-Tape Model in Developing Supportive Teacher Behaviors.* University of Pittsburgh. 1969. 31/273.

This study was done in order to develop and evaluate a videotape unit modeling supportive and non-supportive classroom teacher behavior. Students showed a significant positive reaction to the videotape showing the supportive behavior. A manual was also devised for use with the tape. The reaction to this tape was compared with other groups of teachers exposed to a lecture and follow-up conference focusing on supportive and non-supportive behavior. It was found that if the teachers were in middle class neighborhoods, versus lower class ones, there was a greater positive attitude towards learning and more supportive classroom behavior, regardless of whether the videotape unit was used. While both methods did cause statistically significant positive changes, neither could be shown to be more effective than the other.

Wilson, Thomas Campbell, *A Field Case Study of Video-Tape Substitution for College Supervisor Observations of Pre-Service Student-Teachers.* Wayne State University. 1970. 32/295.

Twenty-four students and their supervisors were studied. Videotape was acceptable as a substitute for some visits to student-teachers. There was a substantial saving of time and money using videotape.

Wood, Nelson Frederick, *A Study of the Effect of Video-Tape Instant Replay on Learning Gymnastic Skills.* Boston University. 1969. 31/207.

This tested the effect of loop film versus loop film with videotape replay on high school boys in self-learning of various gymnastic skills. Performance was filmed for a judgment by a jury of gymnastic experts. Both pre and posttests were given. Students were also classified as lesser and better skilled performers. For the better skilled students neither program was superior; for the lesser skilled the program with videotape replay was superior for the parallel bars but not for the other three activities.

Wrenn, Jerry Parker, *Videotape Feedback As It Influences Elementary School Children in Their Ability to Perform a Motor Task.* University of Maryland. 1970. 31/3945.

He studied the use of videotape in teaching physical education and motor skills. This was tested to see if visual feedback via videotape affected overall performance and retention of 2nd, 4th, and 6th graders. The videotape feedback group experienced superior performance, and individual videotape feedback is suggested for incorporation in the teachers' normal methods.

Wright, Robert Lee, *Criteria for Selection, Development, and Evaluation of Televised Instruction in Community Colleges.* University of California, Los Angeles. 1972. 33/1339.

Data was obtained from questionnaires and interviews. TV can aid more than learning: in-service education, communication, cost-effectiveness. The local situation should determine type of TV to use. Then a philosophy of purpose should be developed. Costs should be studied. The TV system needs to be evaluated, based on local goals and objectives.

Yoakley, Richard Wellington, *The Effects of a Traditional Program Compared with Video and Symbolic Modeling, Feedback, and Reinforcement as a Means of Teaching Empathy to Counselors for the Deaf.* The University of Tennessee. 1971. 32/4437.

Eight males and two females in this study showed that both video and symbolic simulated models were effective in teaching empathy to counselors for the deaf. Behaviors learned in simulated conditions may be transferred to real situations.

Zalokar, Ronald Steven, *The Effect of Videotaping on the Development of Selected Teaching Skills as Taught to Two Methods of Teaching Physical Education Classes Using Microteaching.* Marquette University. 1970. 31/4612.

Thirty-two college seniors were involved in a study to measure 1) set induction 2) closure 3) changing of stimulus situation and 4) use of reinforcement. For set induction, a significant difference was found favoring the videotape group.

Zulalian, Ara, *A Study to Determine Improvement of Performance of the Glide Kip on a Parallel Bar Through the Use of Loop Film and Television Playback.* University of Utah. 1969. 30/1851.

This study was done to measure the effect of videotape replay of skill performances and loop film presentation of desired forms. Fifty-two boys (ages 10-14) participated and were divided into four groups using 1) the traditional method of verbalization, demonstration and physical assistance by teachers 2) TV replay of their performance with no assistance from the teacher 3) loop film observation with no instructions from their teacher and 4) comparing the loop film with a TV replay of their performance without the teacher correcting their faults. The difference between the means of the four groups was not statistically significant.